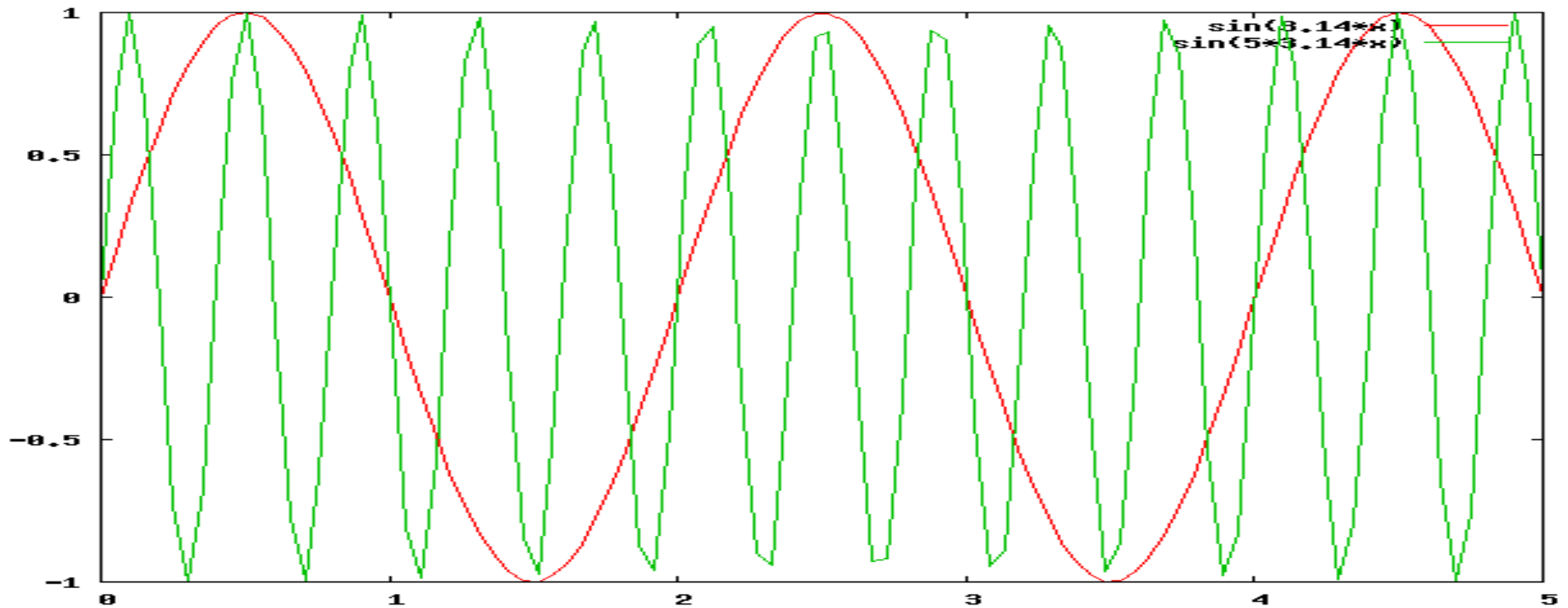


# BPM calibration

- Pedestals
  - Left arm 758
    - Fadcs
    - Fbus adcs
  - Right arm 90558
    - Fadcs
    - Fbus adcs
- Harp scans for a bulleye's scan
  - [https://wiki.jlab.org/tegwiki/index.php/BPM\\_Calibration](https://wiki.jlab.org/tegwiki/index.php/BPM_Calibration)

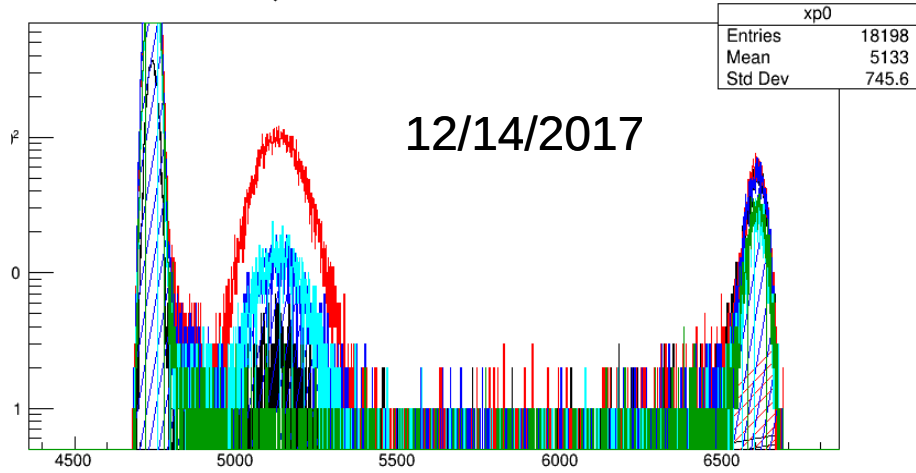
# Issues:

- Harp scan was completed with tune beam
  - Due to the differences in frequency of tune beam and our electronics, we receive multiple signals.
  - I image the timing to be something similar to this

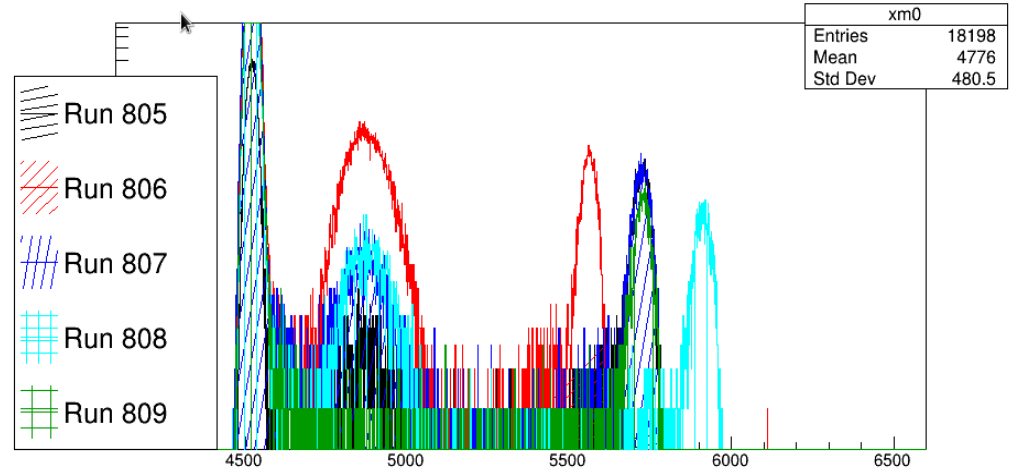


# Issues:

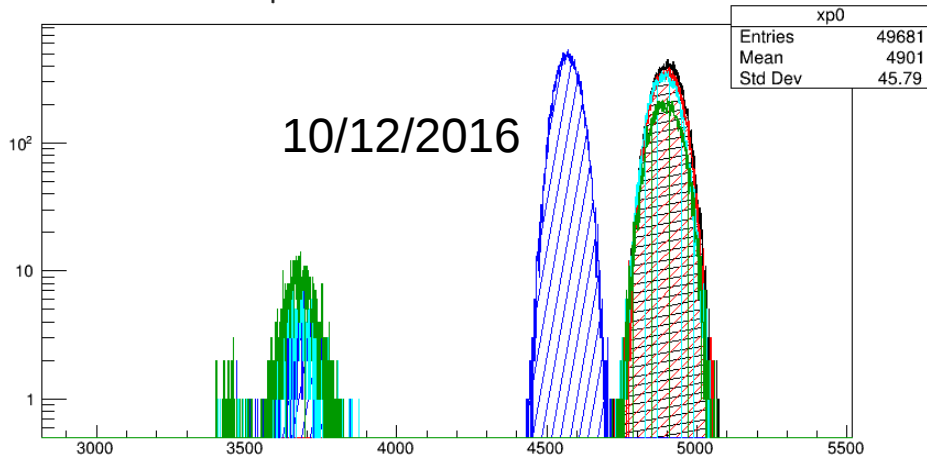
xp rawcur for BPM A: run 805



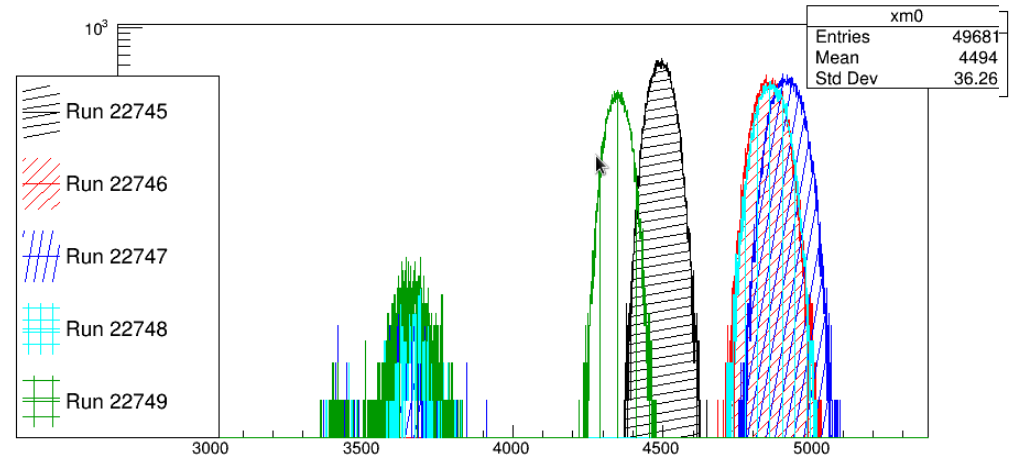
xm rawcur for BPM A: run 805



xp rawcur for BPM A: run 22745

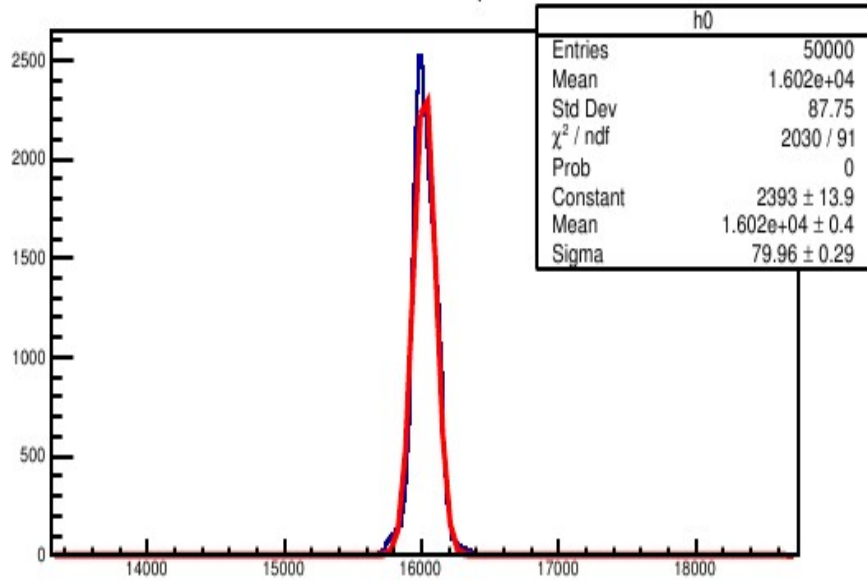


xm rawcur for BPM A: run 22745

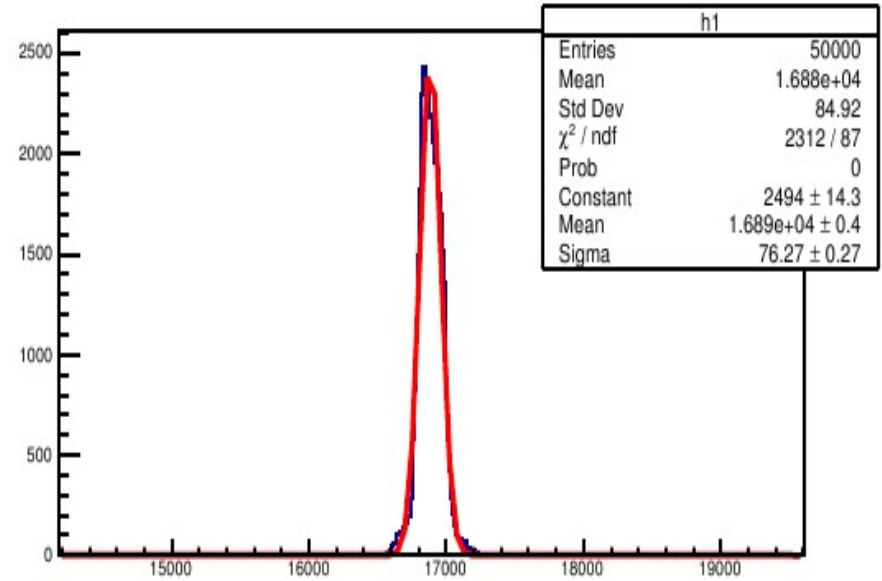


# - Left arm 758 fadcs pedestals

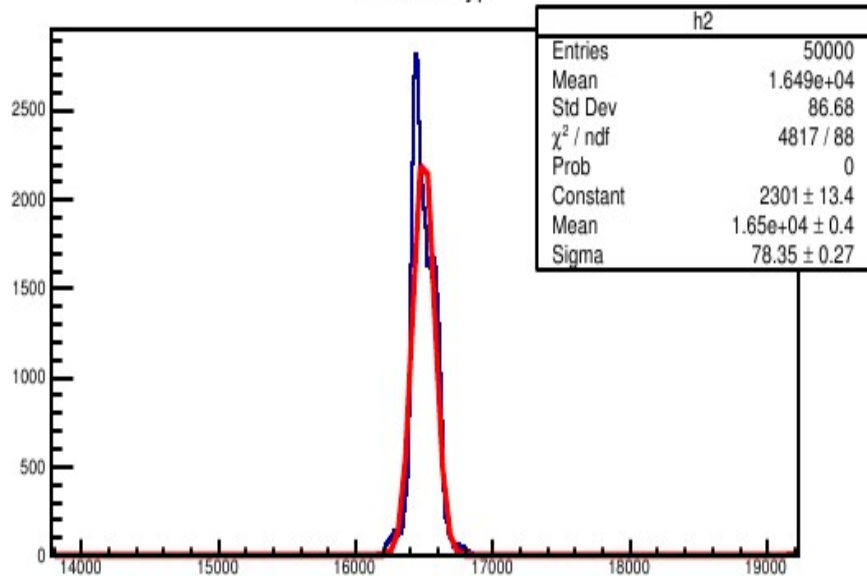
BPMA 1 - xp



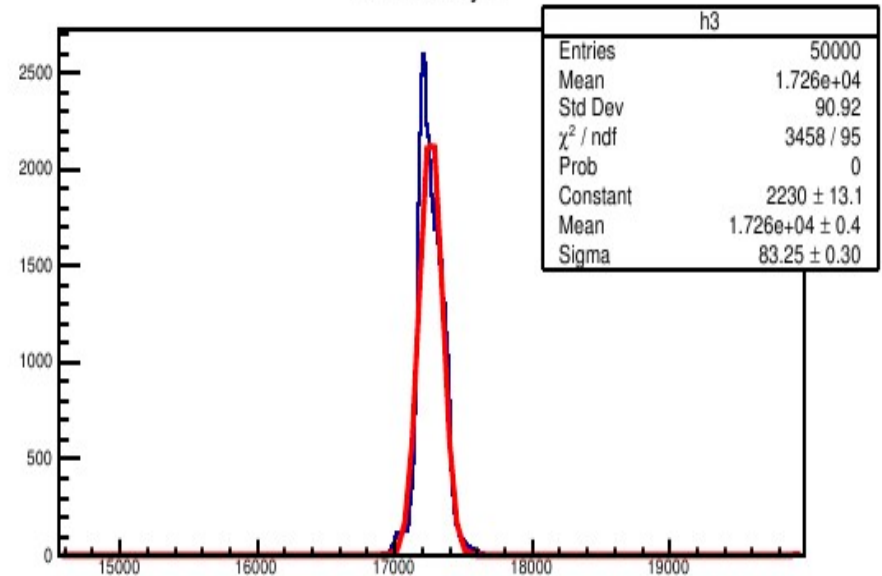
BPMA 2 - xm



BPMA 3 - yp



BPMA 4 - ym

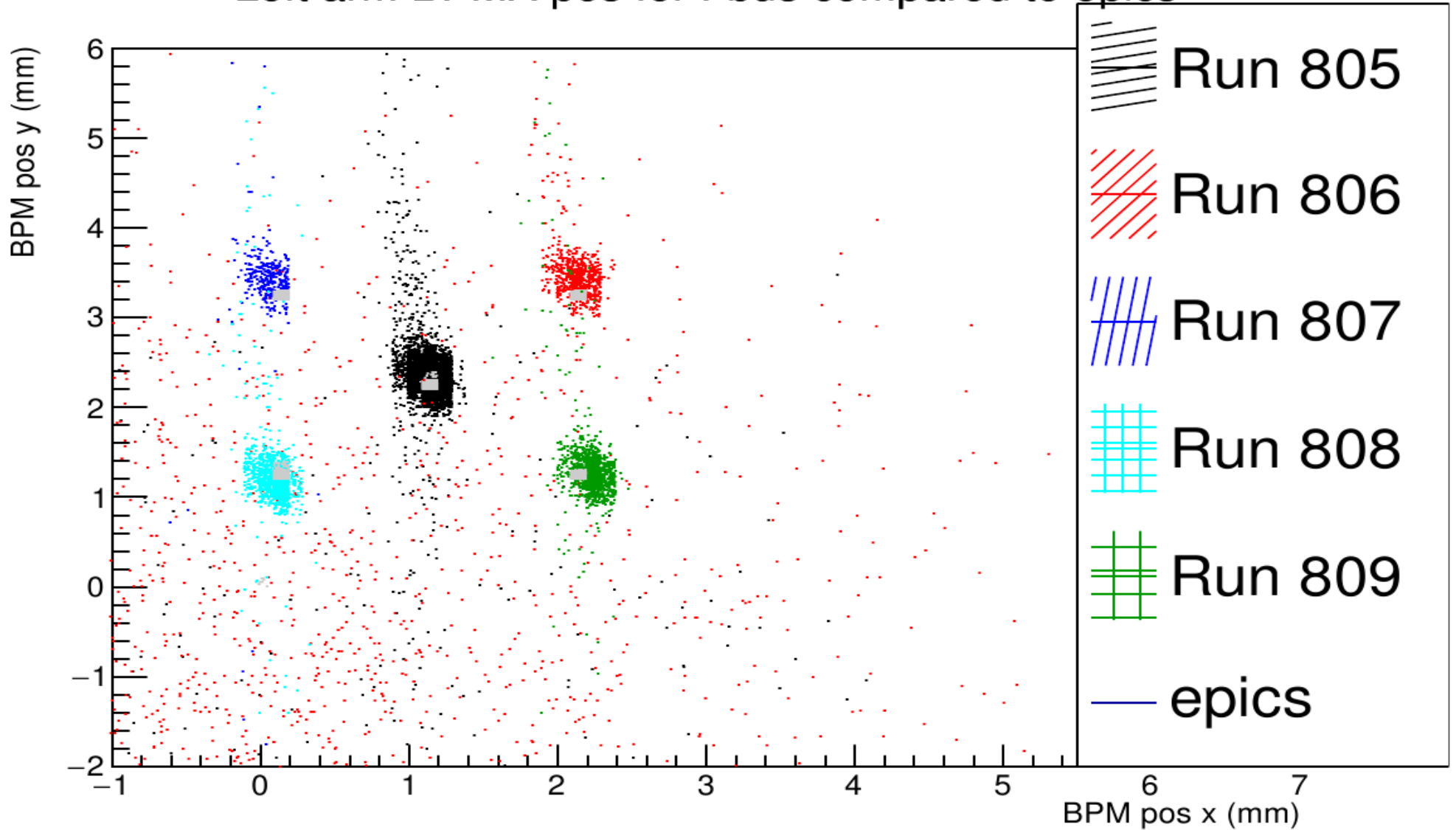


# Calibration results

- 2D Plot of the x and y positions reconstructed from the Bpm signals with a Grey box of the values we expect.
- A graph of the fitted x and y position compared to their epics reference.

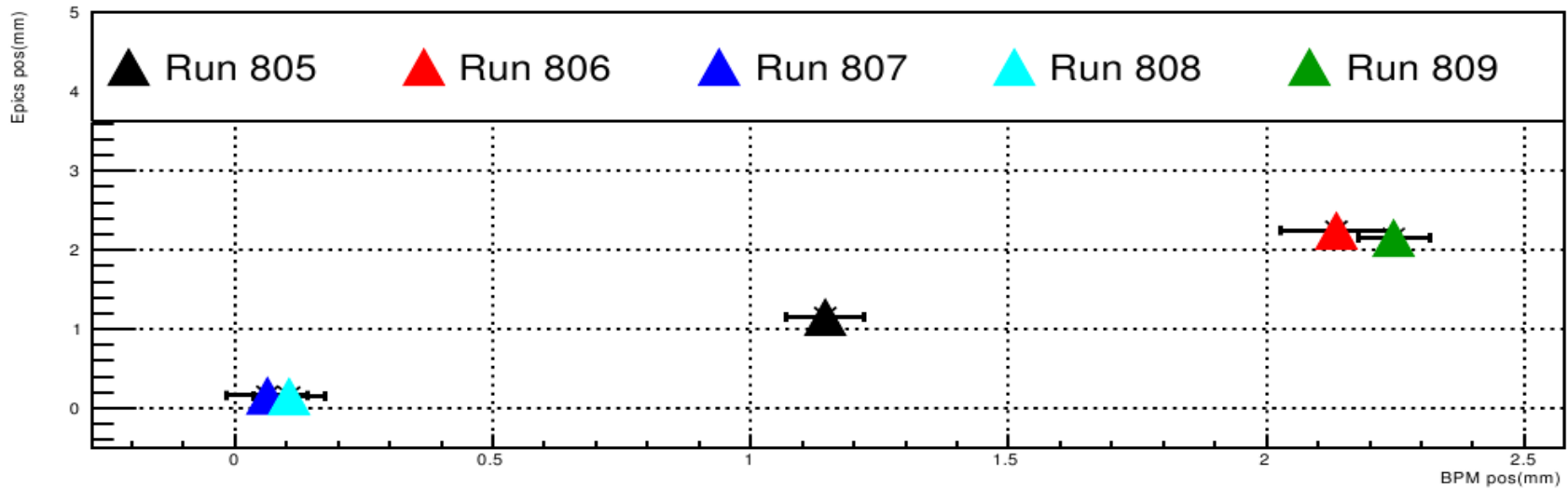
# Calibration for Left Arm

Left arm BPMA pos for Fbus compared to epics

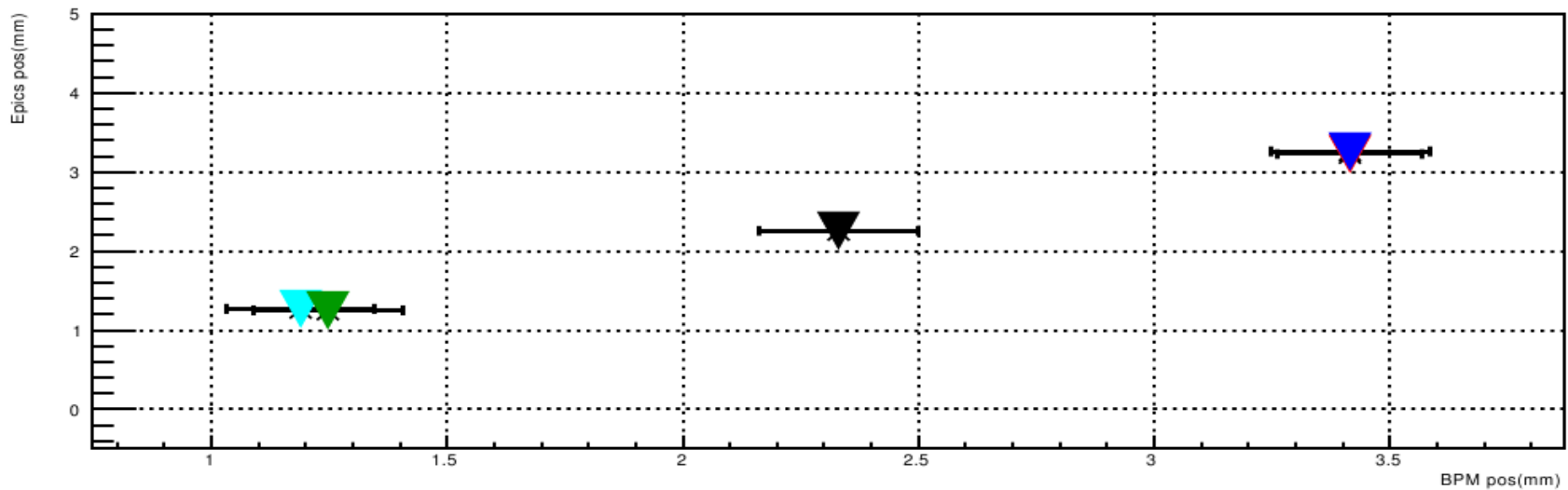


# Calibration for Left Arm

Left arm Fbus BPMA vs epics for x pos



Left arm Fbus BPMA vs epics for y pos



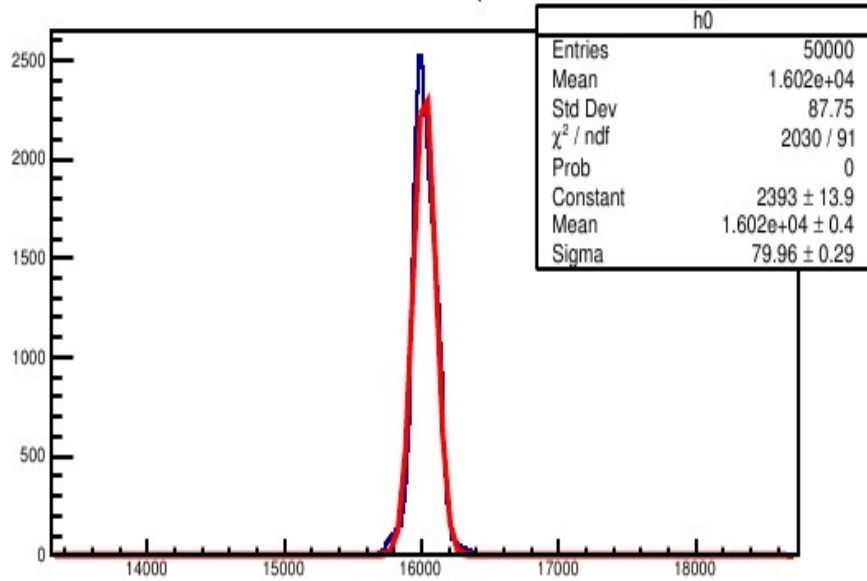
# Extra data

- The following slides contain:
  - the pedestal fits, for both arms and both types of adcs.
  - Calibration results from the BPMs
    - A 2d comparison of the BPMs to epics variables
    - A 1d comparison of both axes.

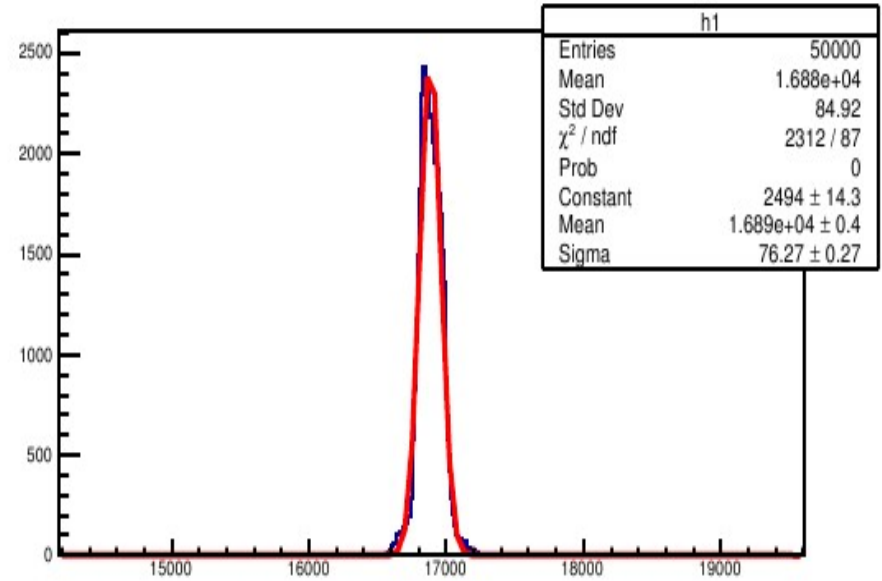


- Left arm 758 fadcs

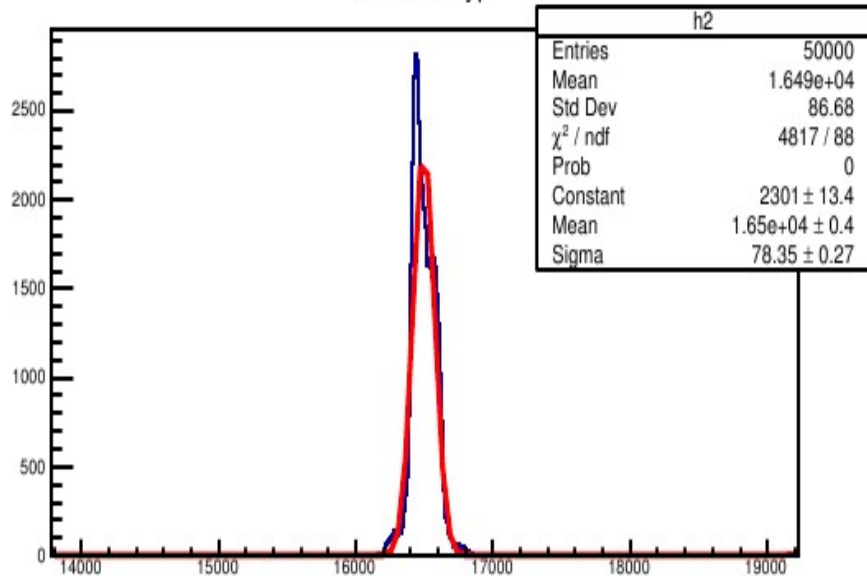
BPMA 1 - xp



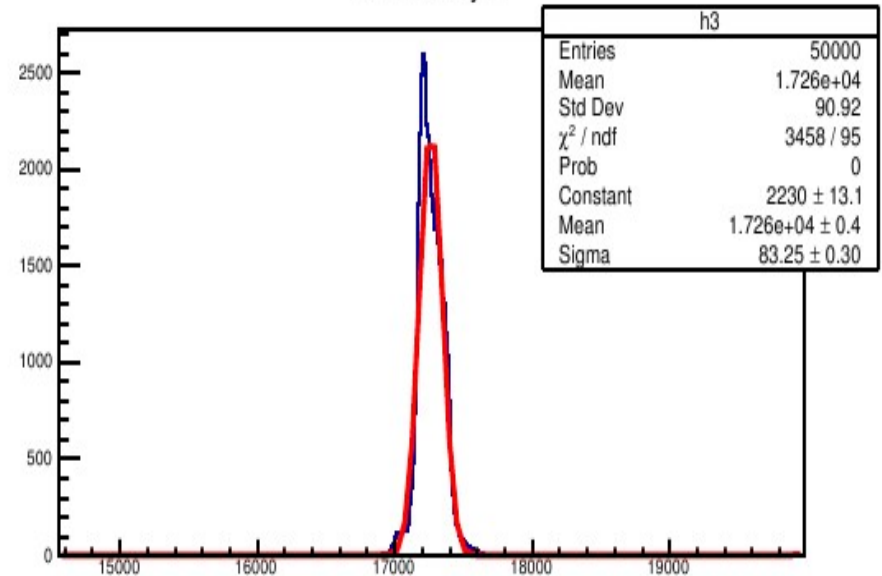
BPMA 2 - xm



BPMA 3 - yp

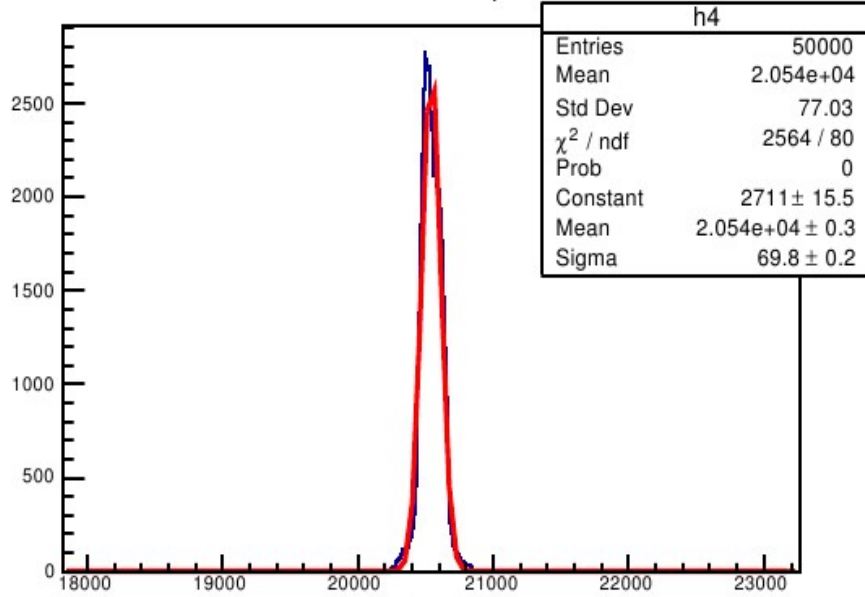


BPMA 4 - ym

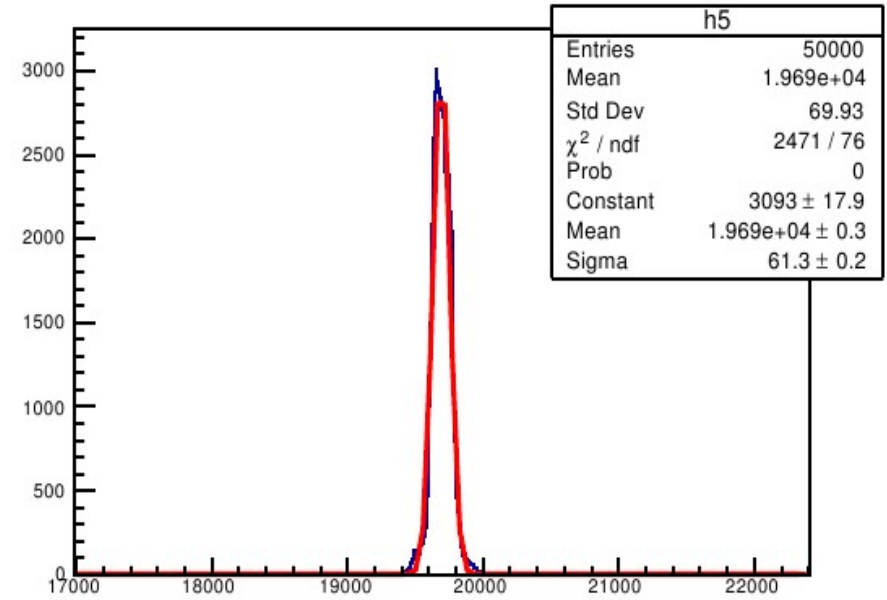


# - Left arm 758 fadcs

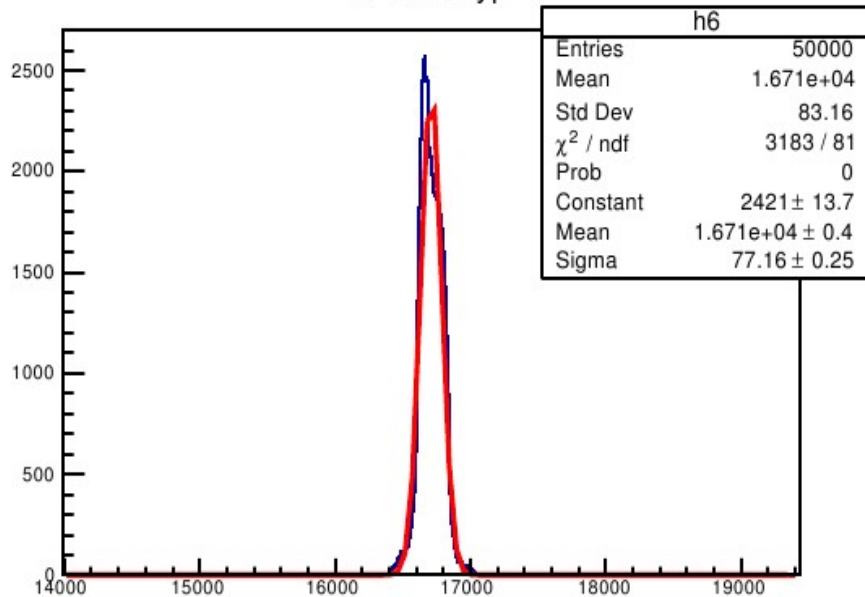
### BPMB 1- xp



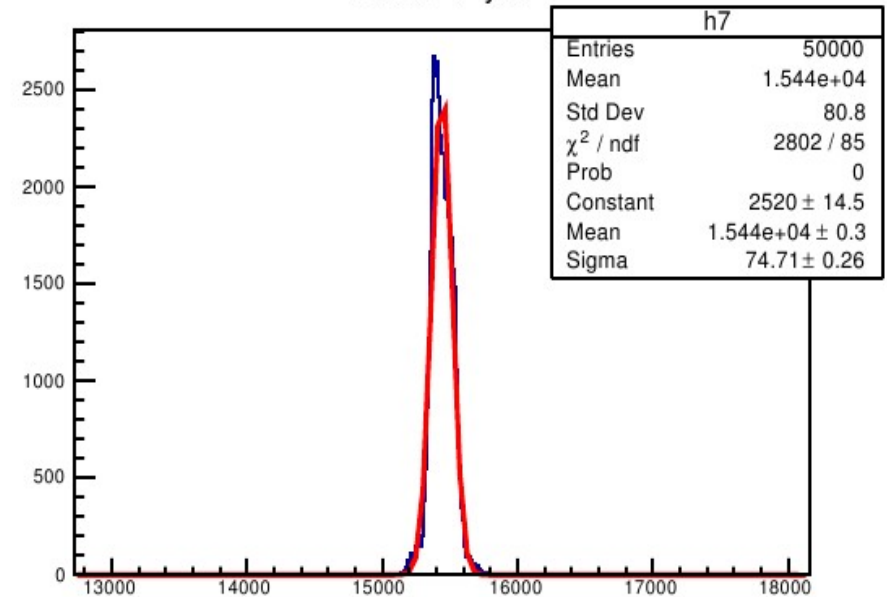
### BPMB 2- xm



### BPMB 3- yp

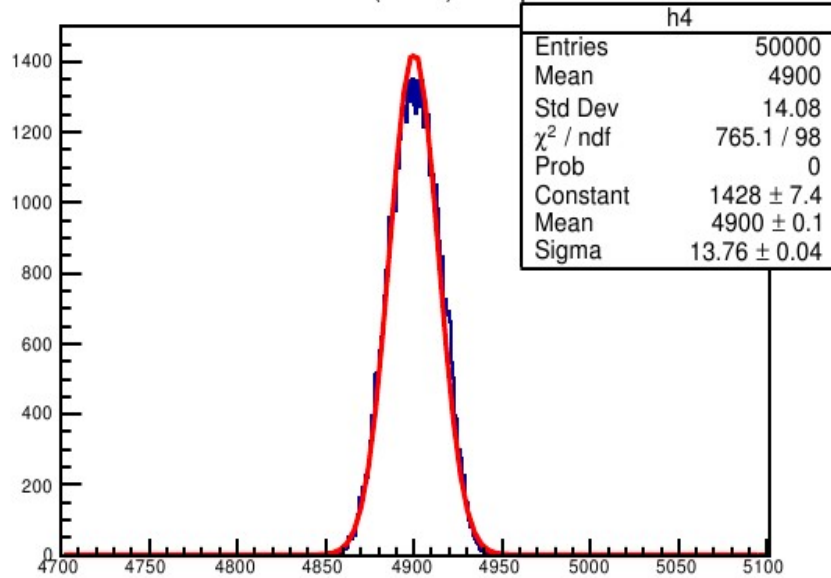


### BPMB 4- ym

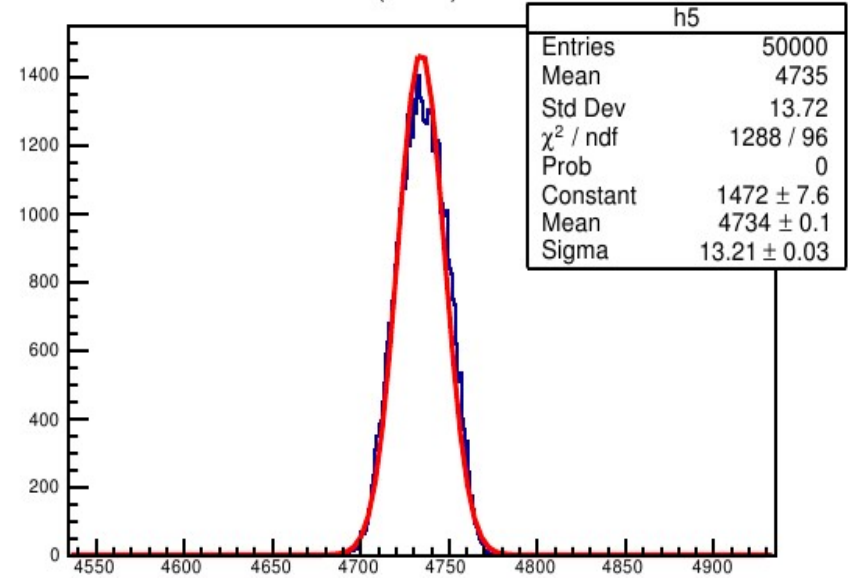


# - Left arm 758

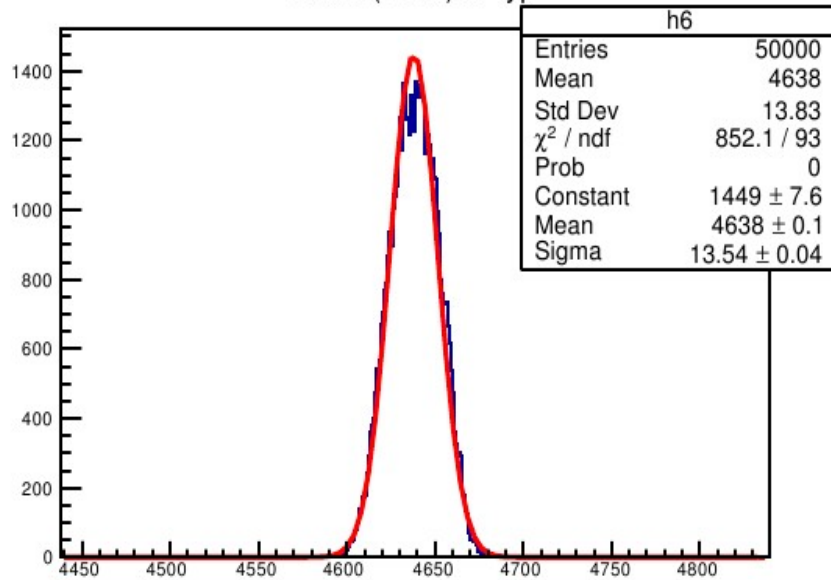
BPMB(Fbus) 1 - xp



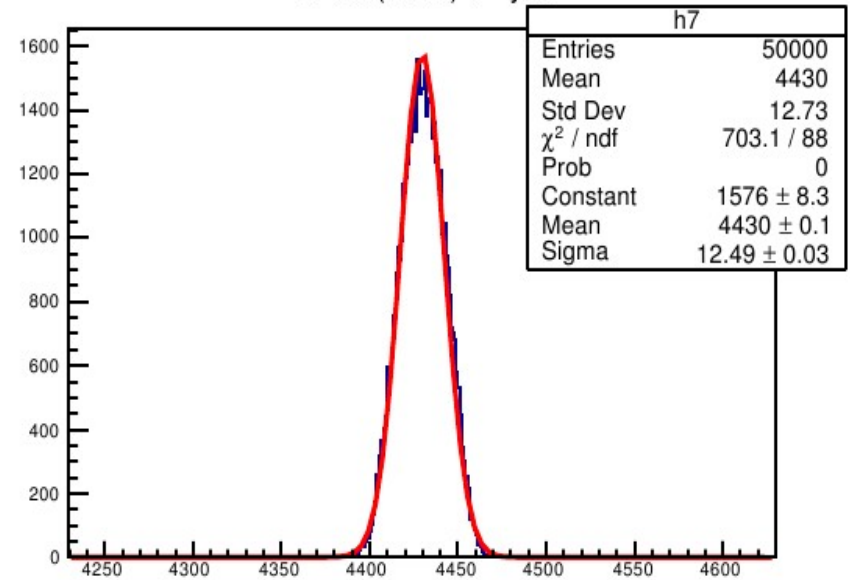
BPMB(Fbus) 2 - xm



BPMB(Fbus) 3 - yp

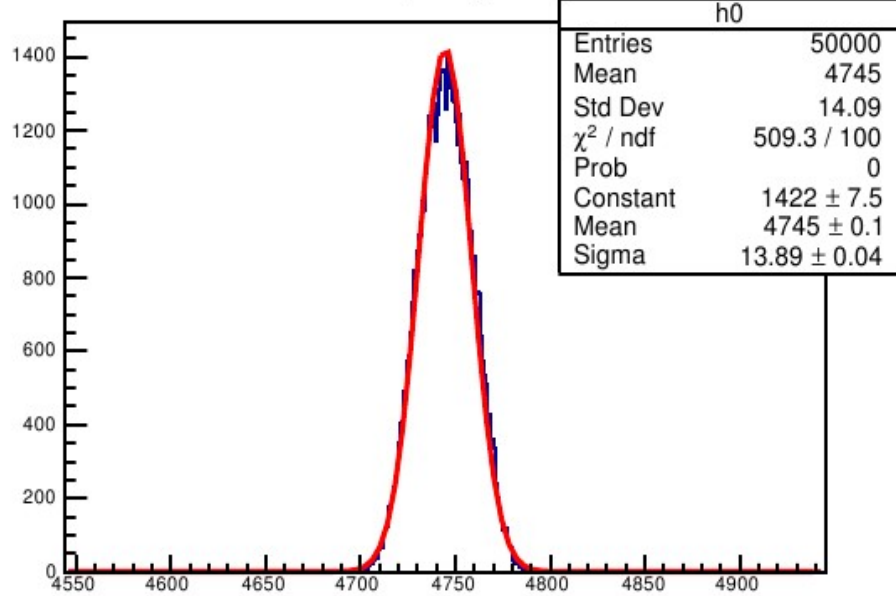


BPMB(Fbus) 4 - ym

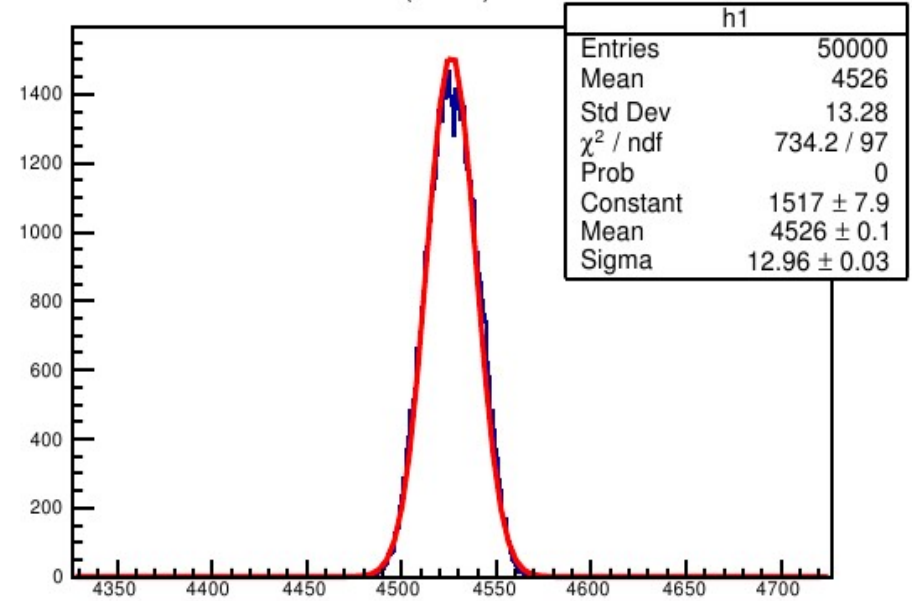


# - Left arm 758

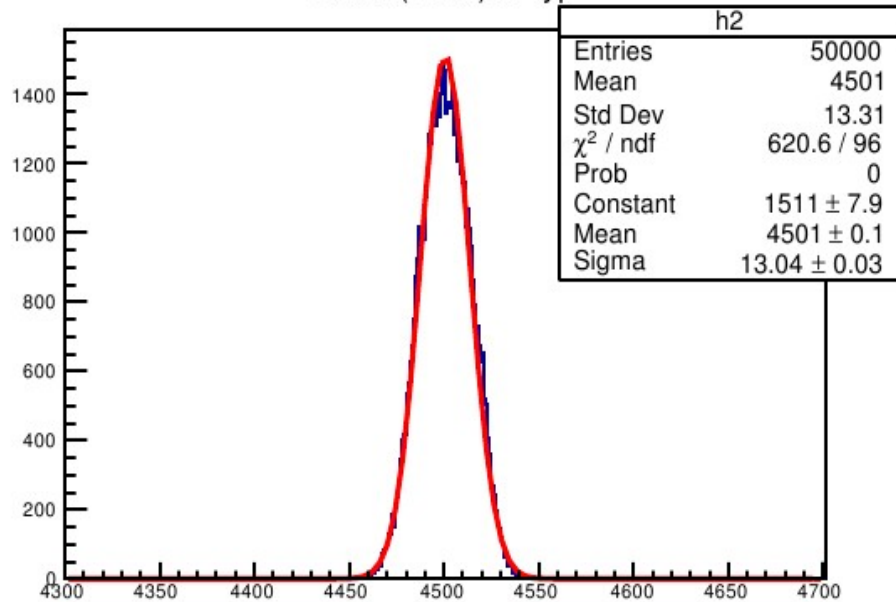
BPMA(Fbus) 1 - xp



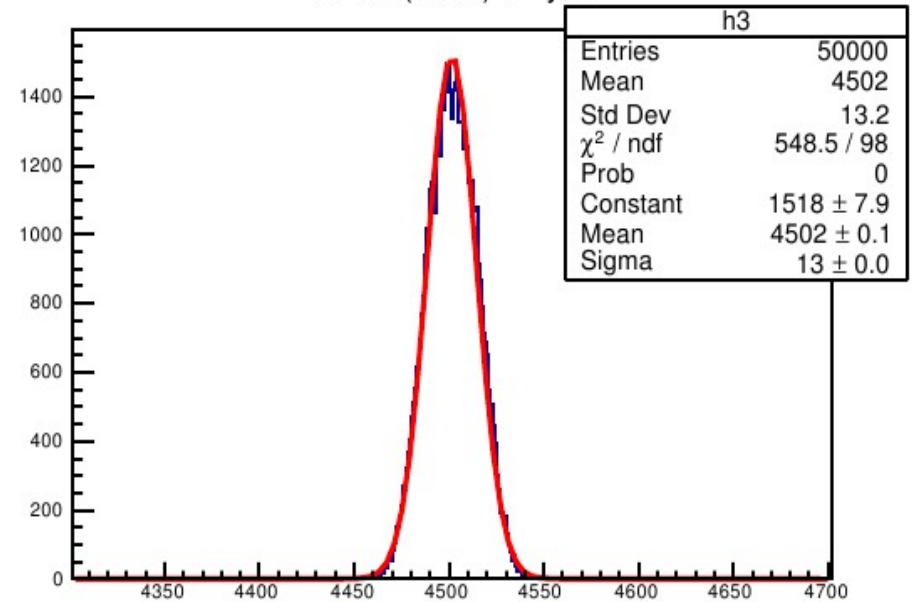
BPMA(Fbus) 2 - xm



BPMA(Fbus) 3 - yp

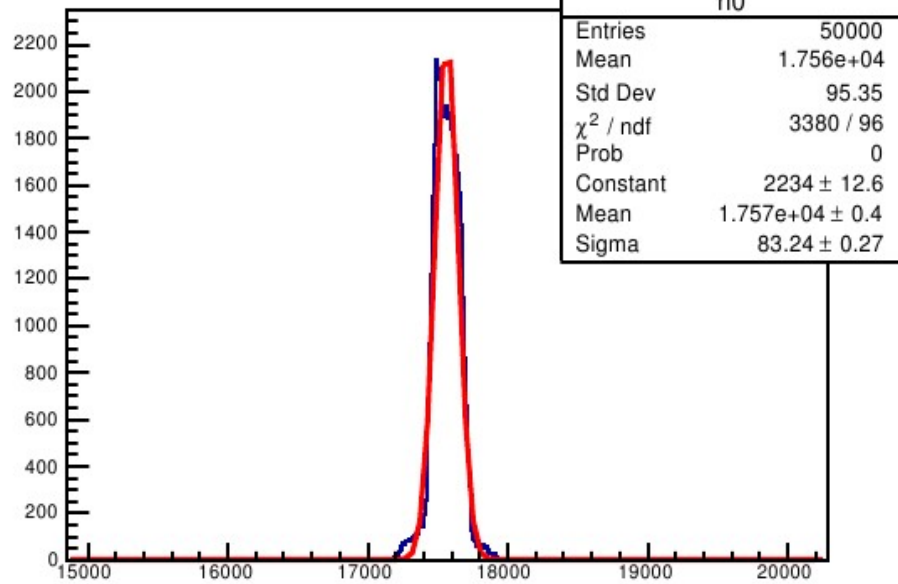


BPMA(Fbus) 4 - ym

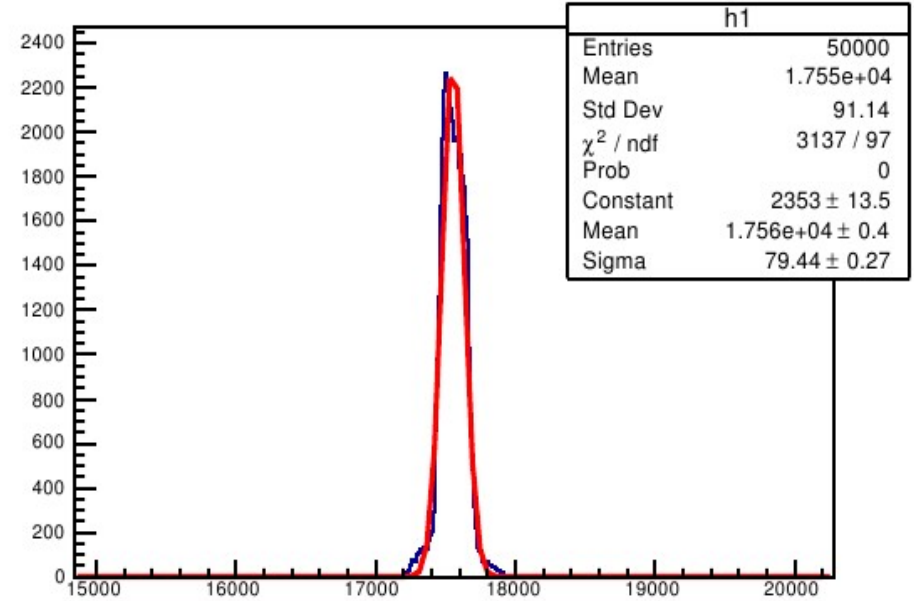


# - Right arm 90558

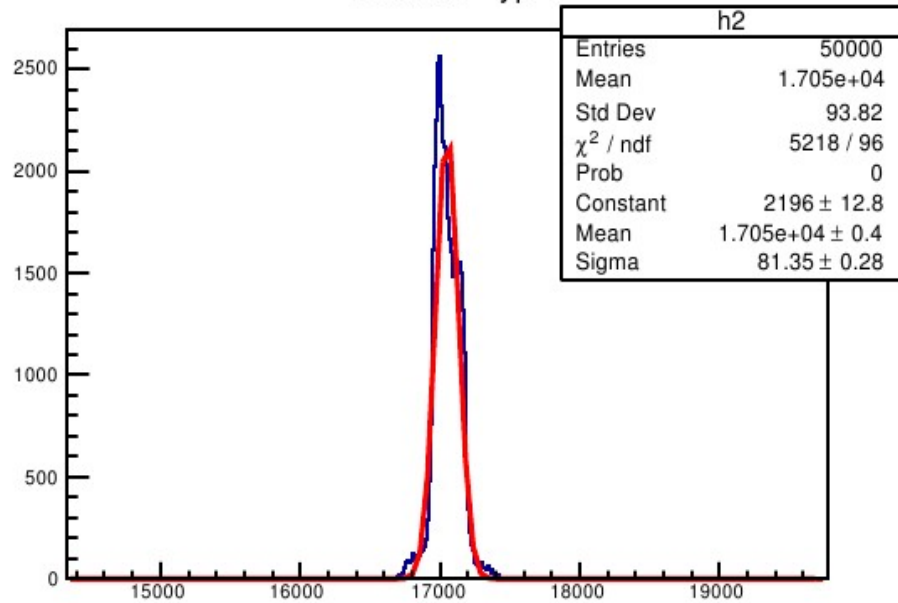
BPMA 1 - xp



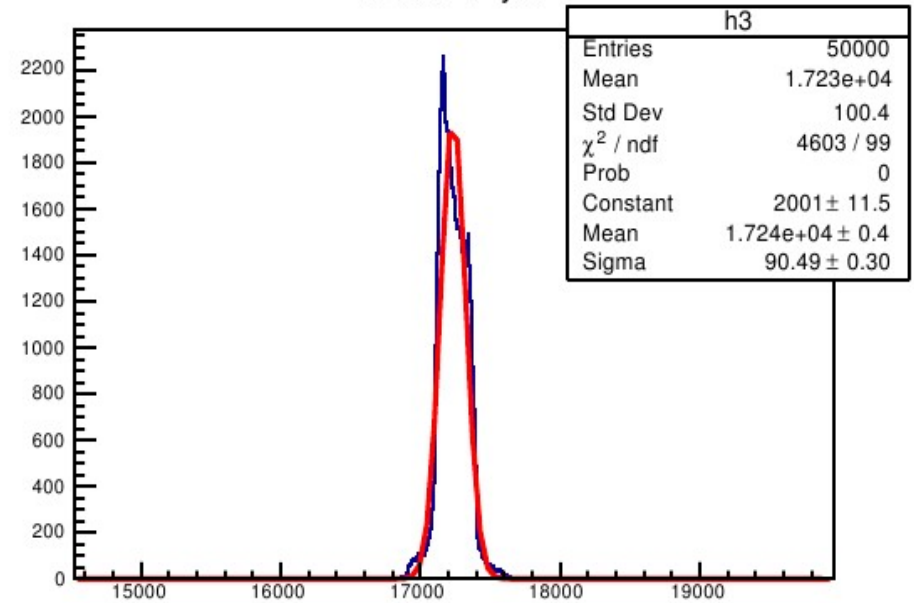
BPMA 2 - xm



BPMA 3 - yp

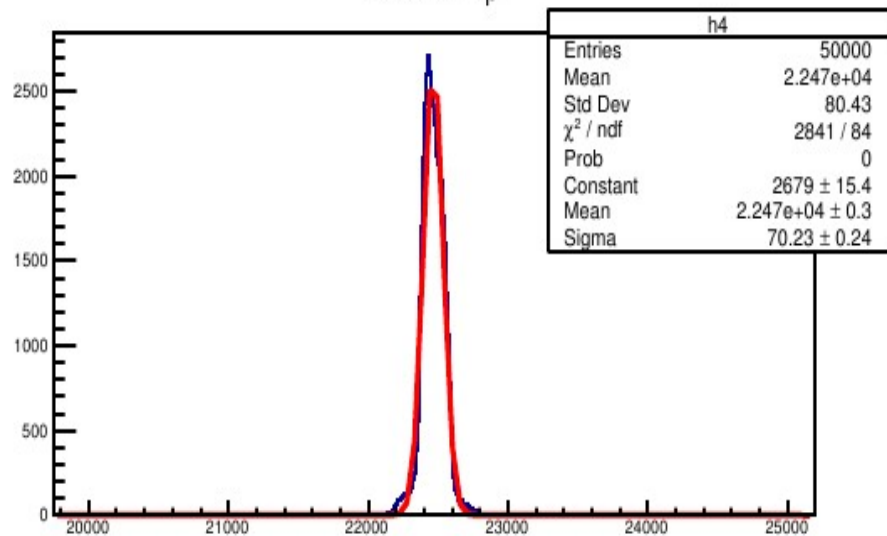


BPMA 4 - ym

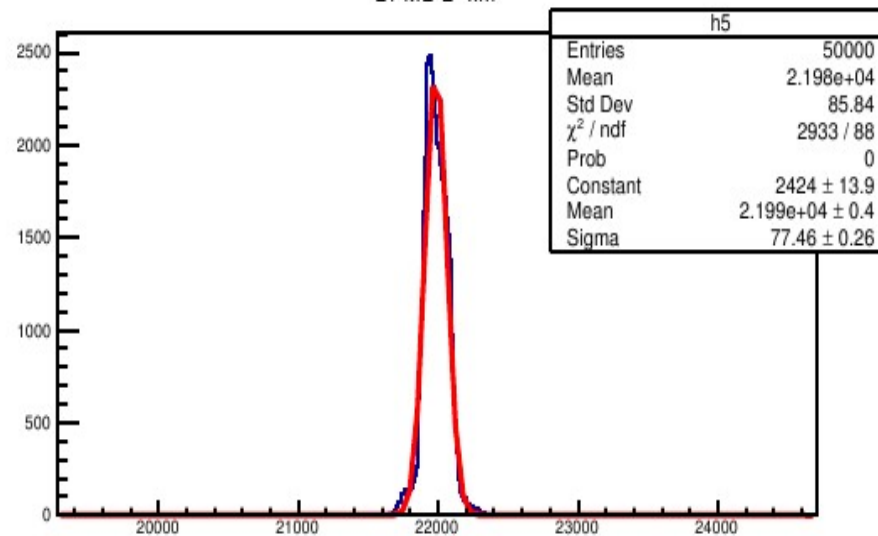


# - Right arm 90558

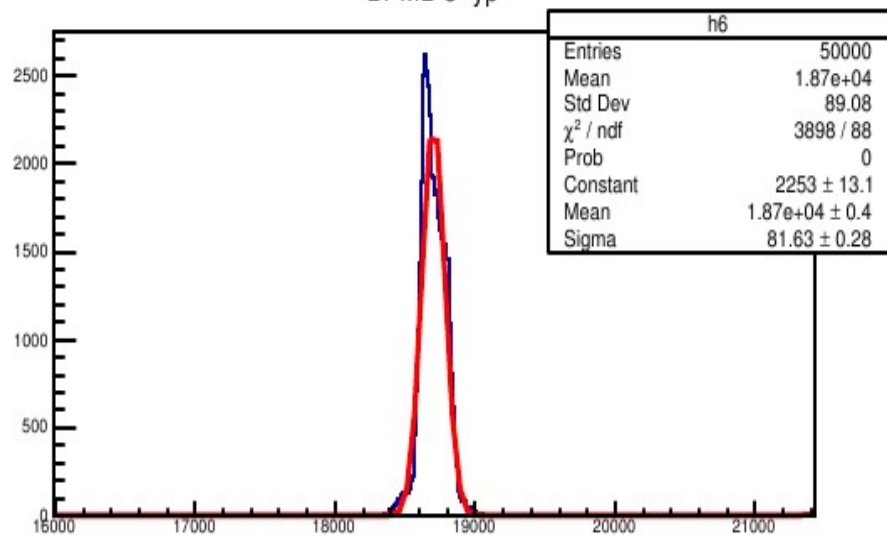
BPMB 1- xp



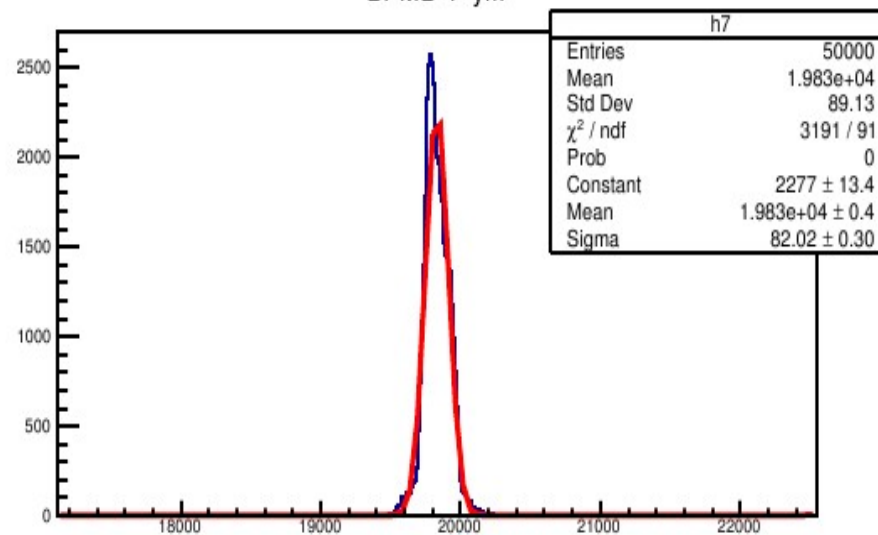
BPMB 2- xm



BPMB 3- yp

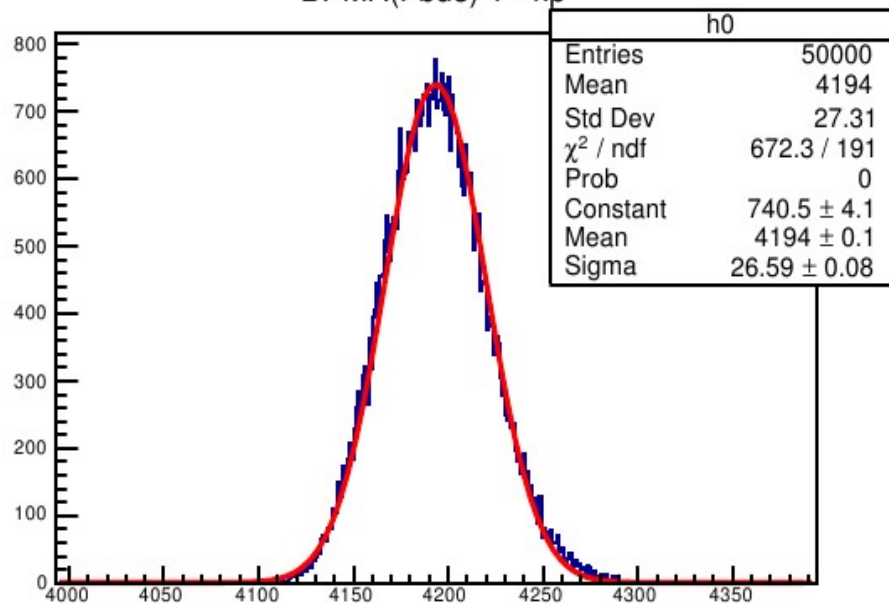


BPMB 4- ym

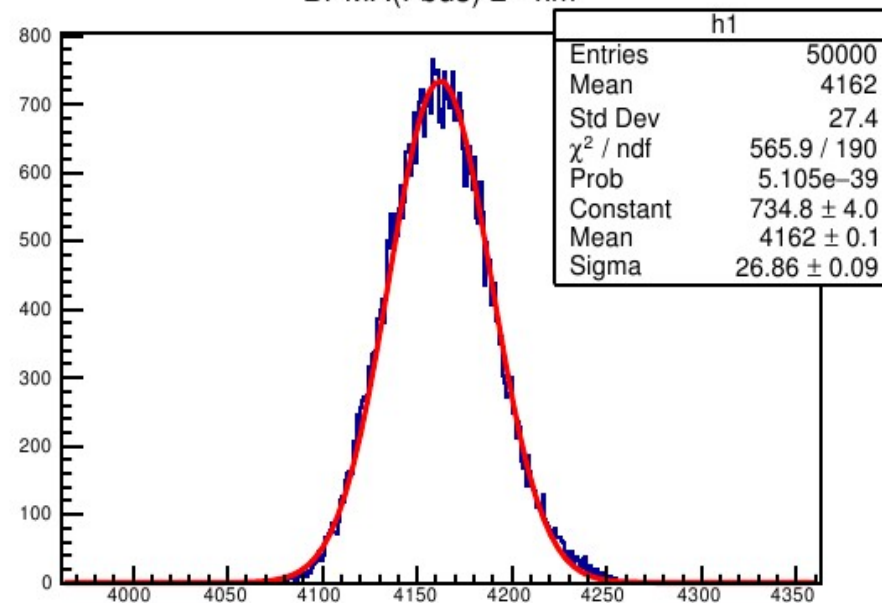


# - Right arm 90558

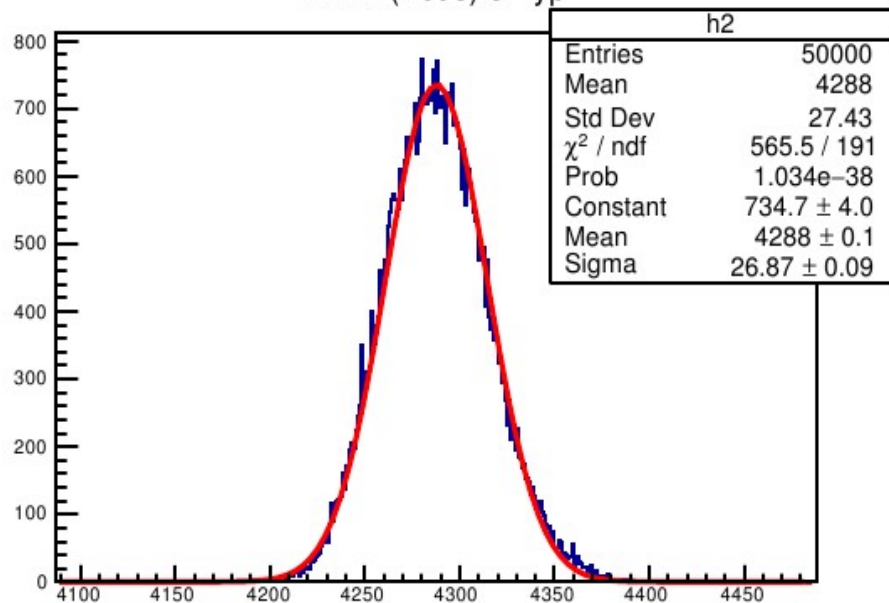
BPMA(Fbus) 1 - xp



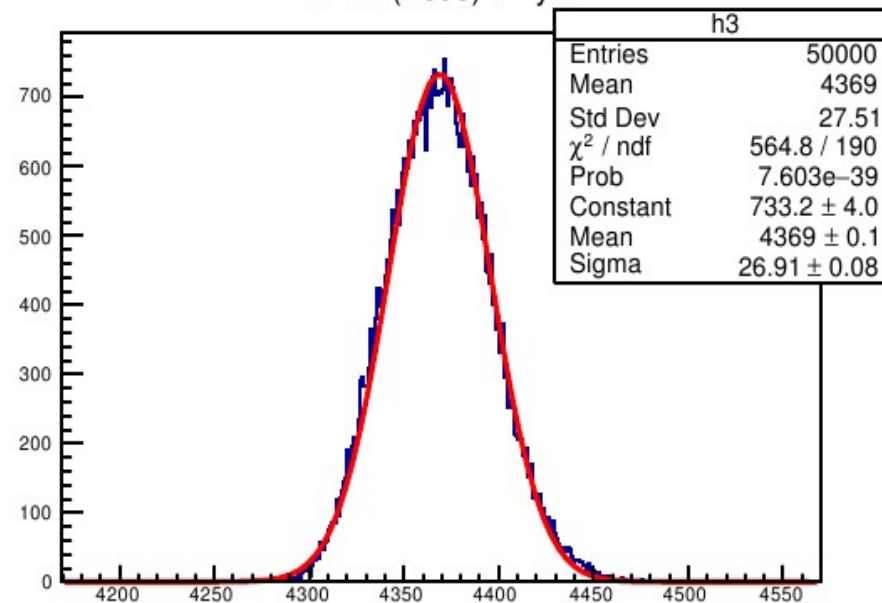
BPMA(Fbus) 2 - xm



BPMA(Fbus) 3 - yp

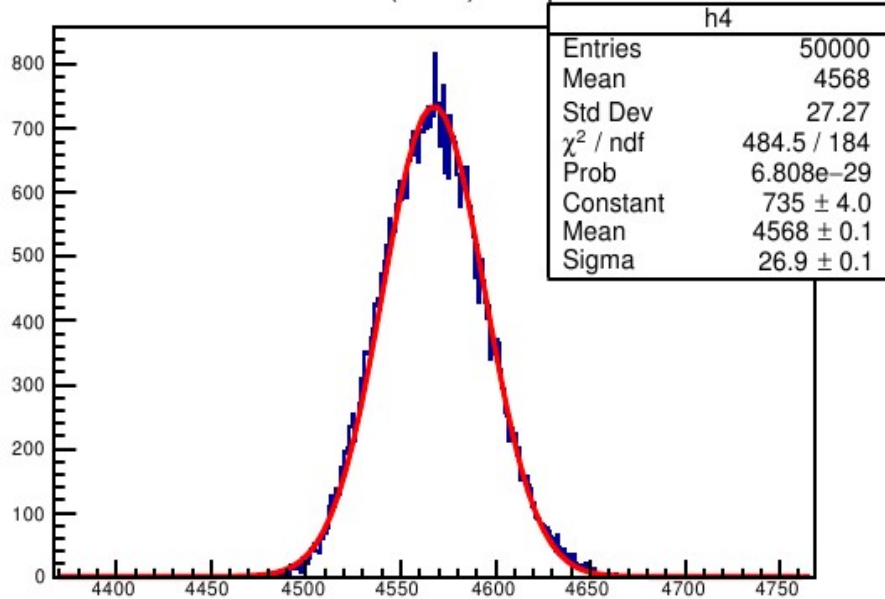


BPMA(Fbus) 4 - ym

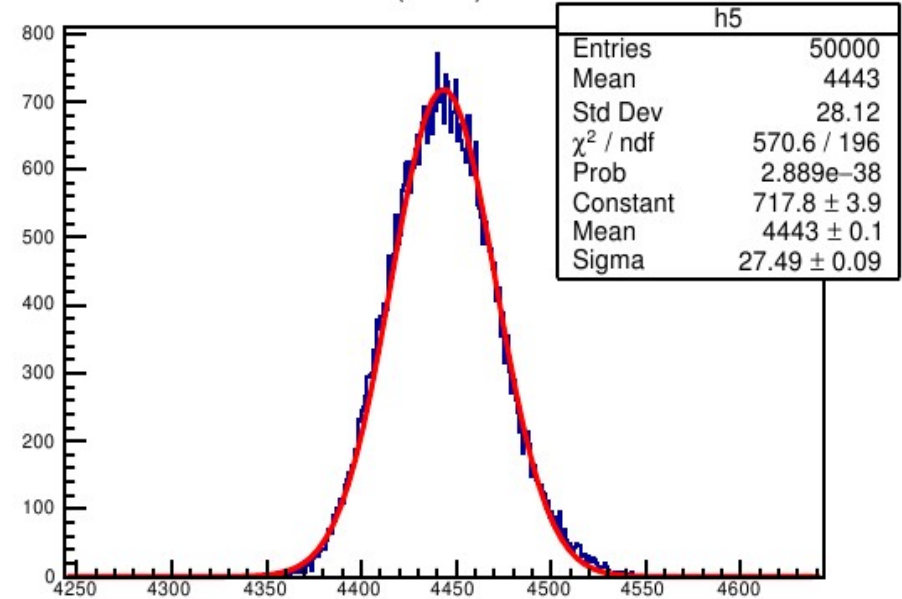


# - Right arm 90558

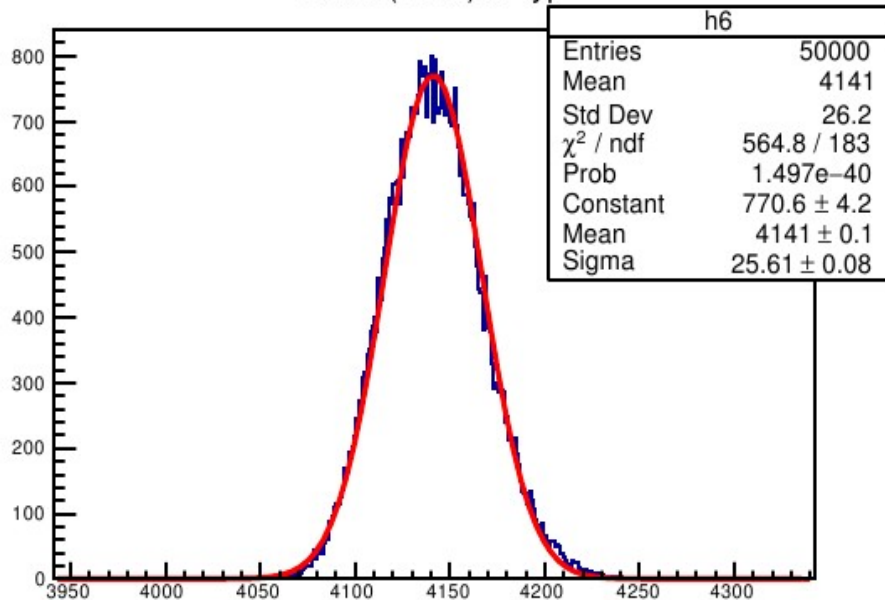
BPMB(Fbus) 1 - xp



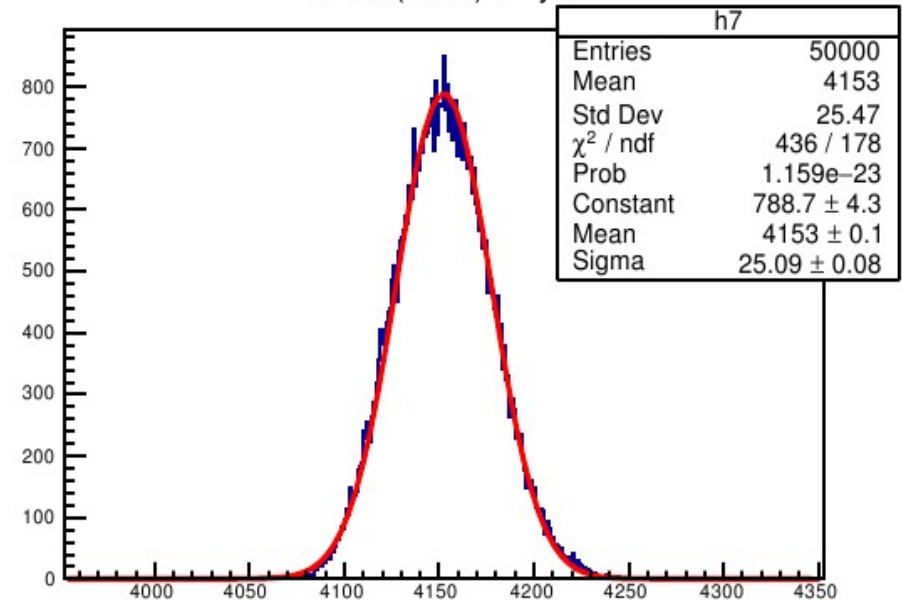
BPMB(Fbus) 2 - xm



BPMB(Fbus) 3 - yp



BPMB(Fbus) 4 - ym



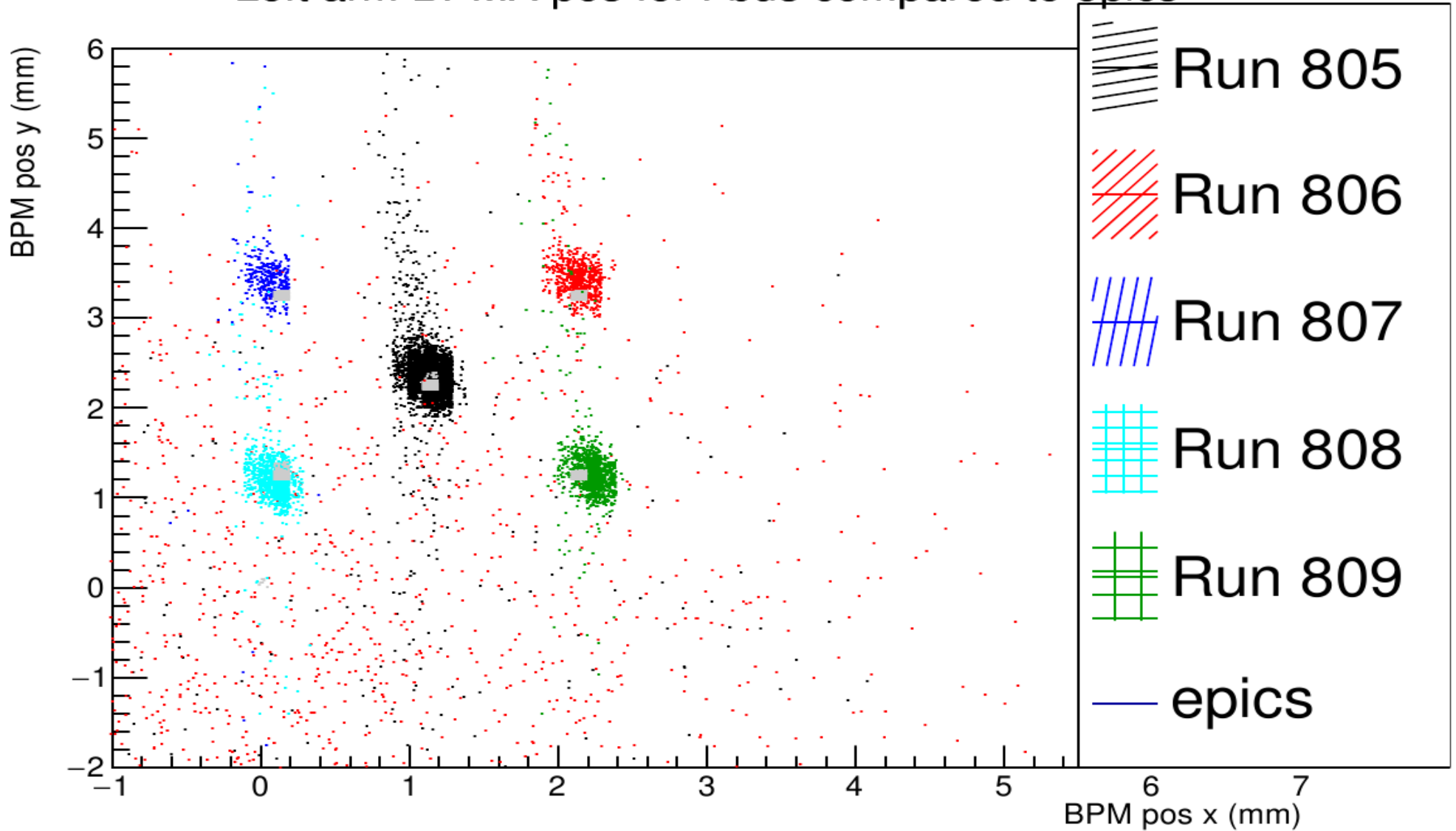


# Calibration results

- 2D Plot of the x and y positions reconstructed from the Bpm signals with a Grey box of the values we expect.
- A graph of the fitted x and y position compared to their epics reference.
- This is completed for each BPM of each arm for both fadc and Fast bus.

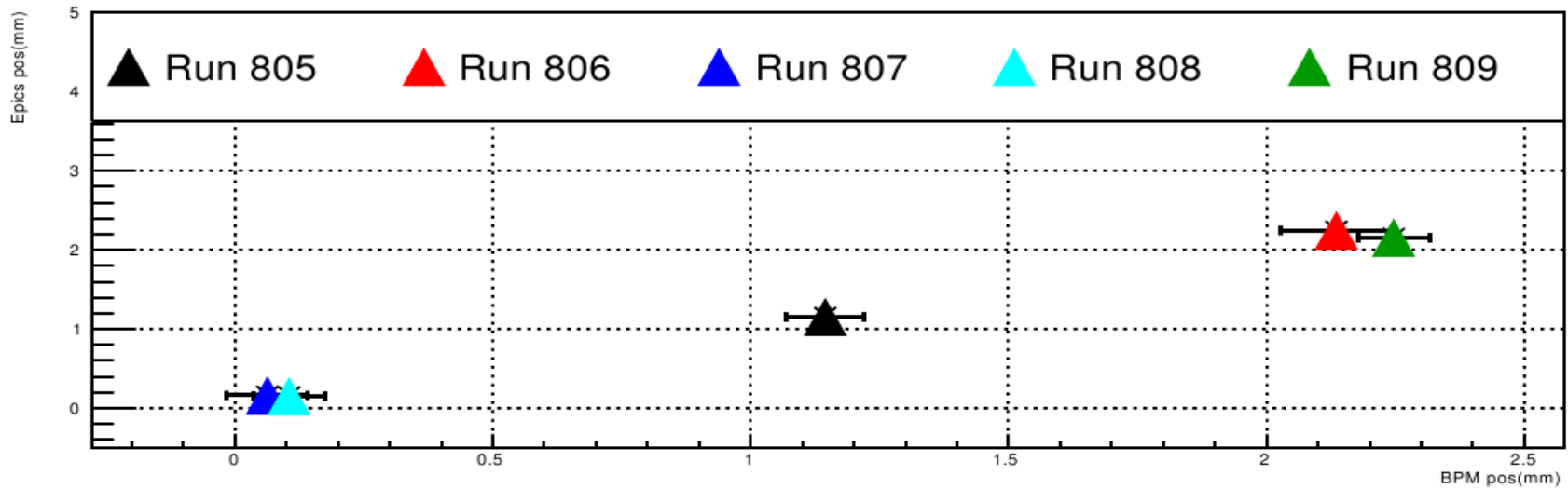
# Calibration for Left Arm

Left arm BPMA pos for Fbus compared to epics

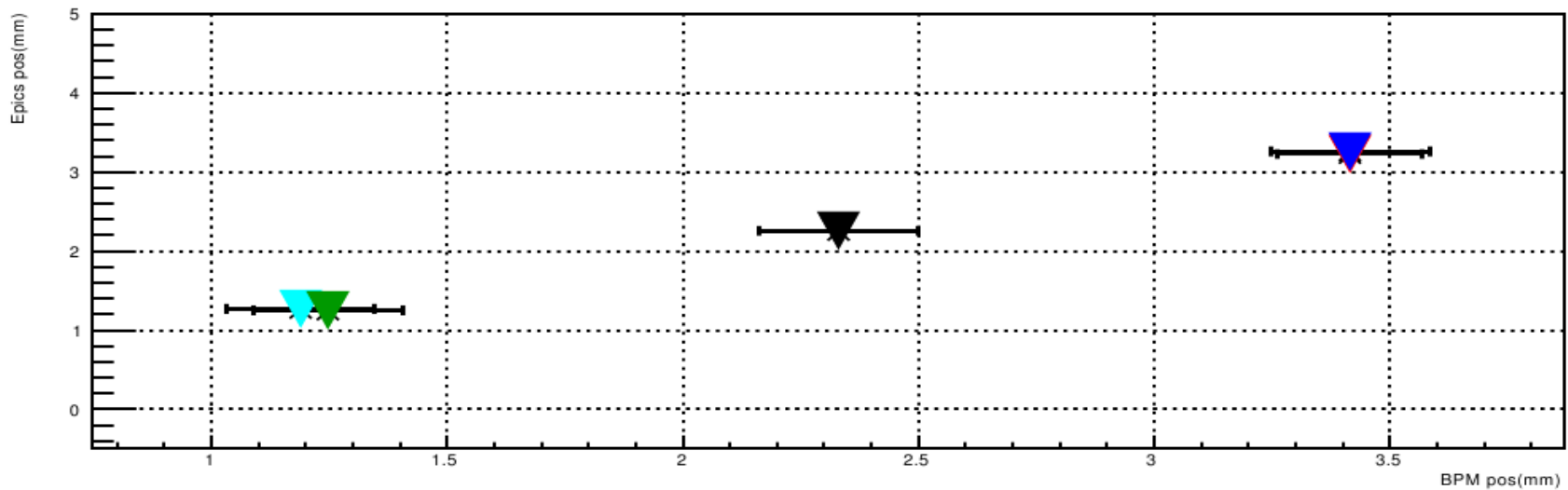


# Calibration for Left Arm

Left arm Fbus BPMA vs epics for x pos

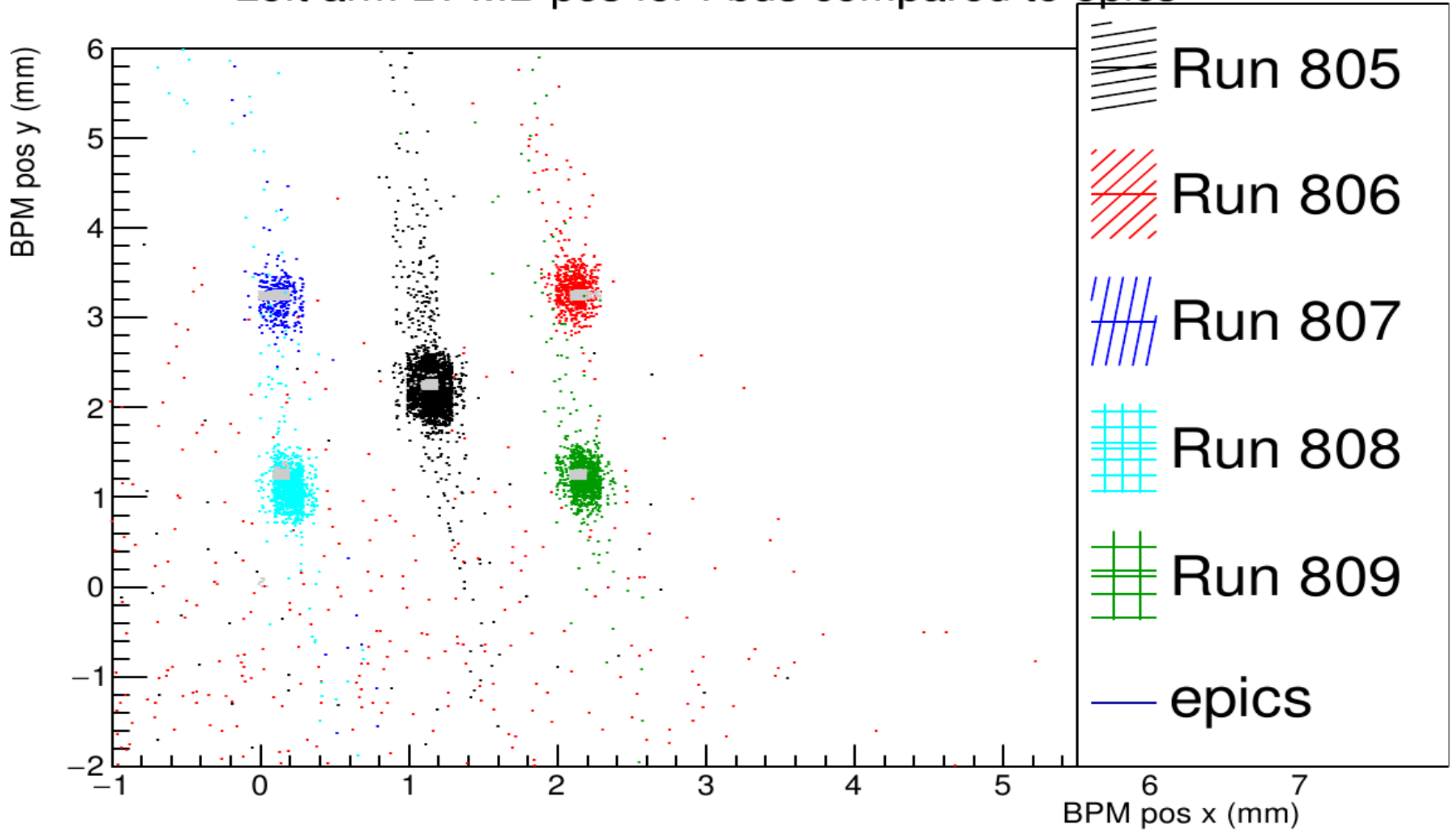


Left arm Fbus BPMA vs epics for y pos



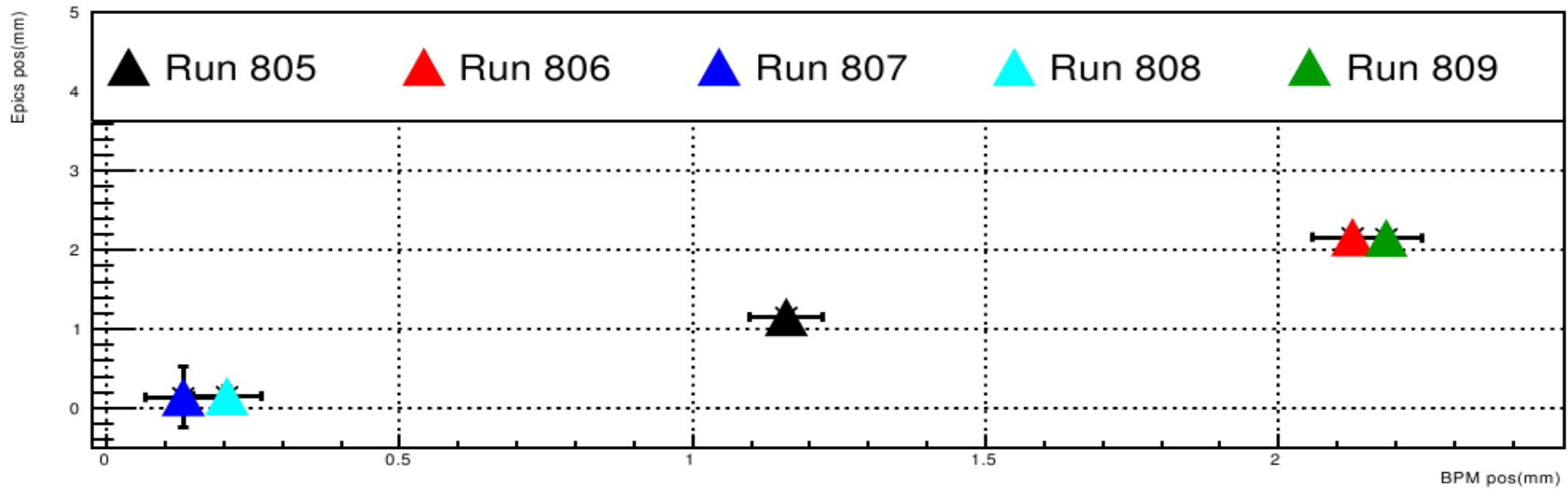
# Calibration for Left Arm

Left arm BPMB pos for Fbus compared to epics

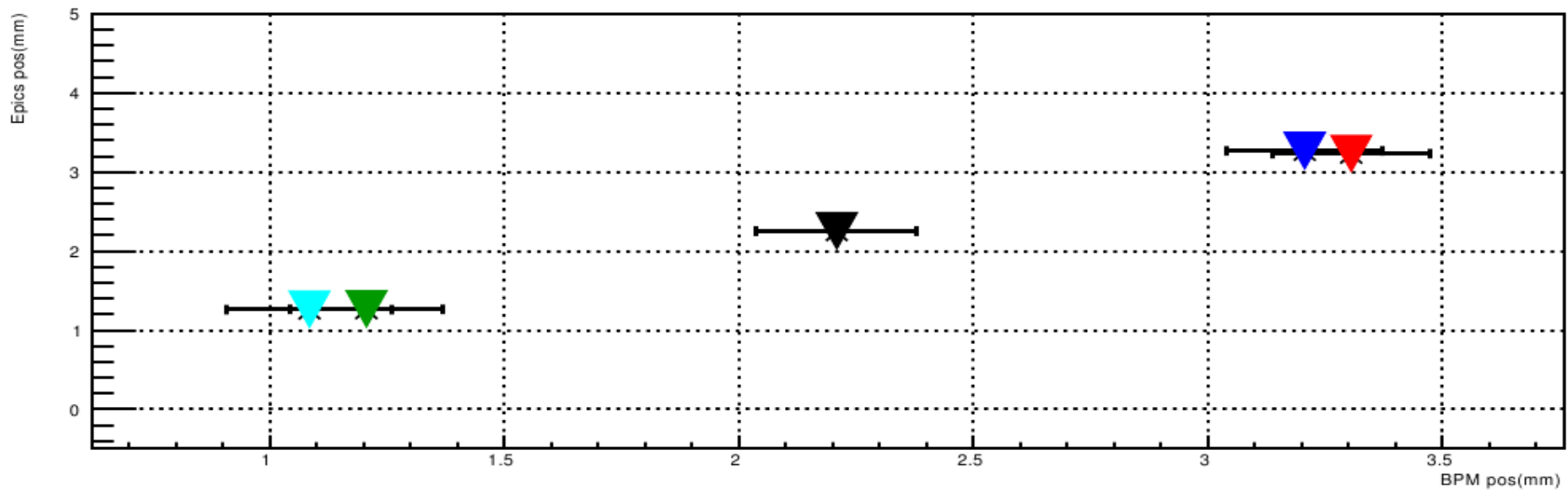


# Calibration for Left Arm

Left arm Fbus BPMB vs epics for x pos

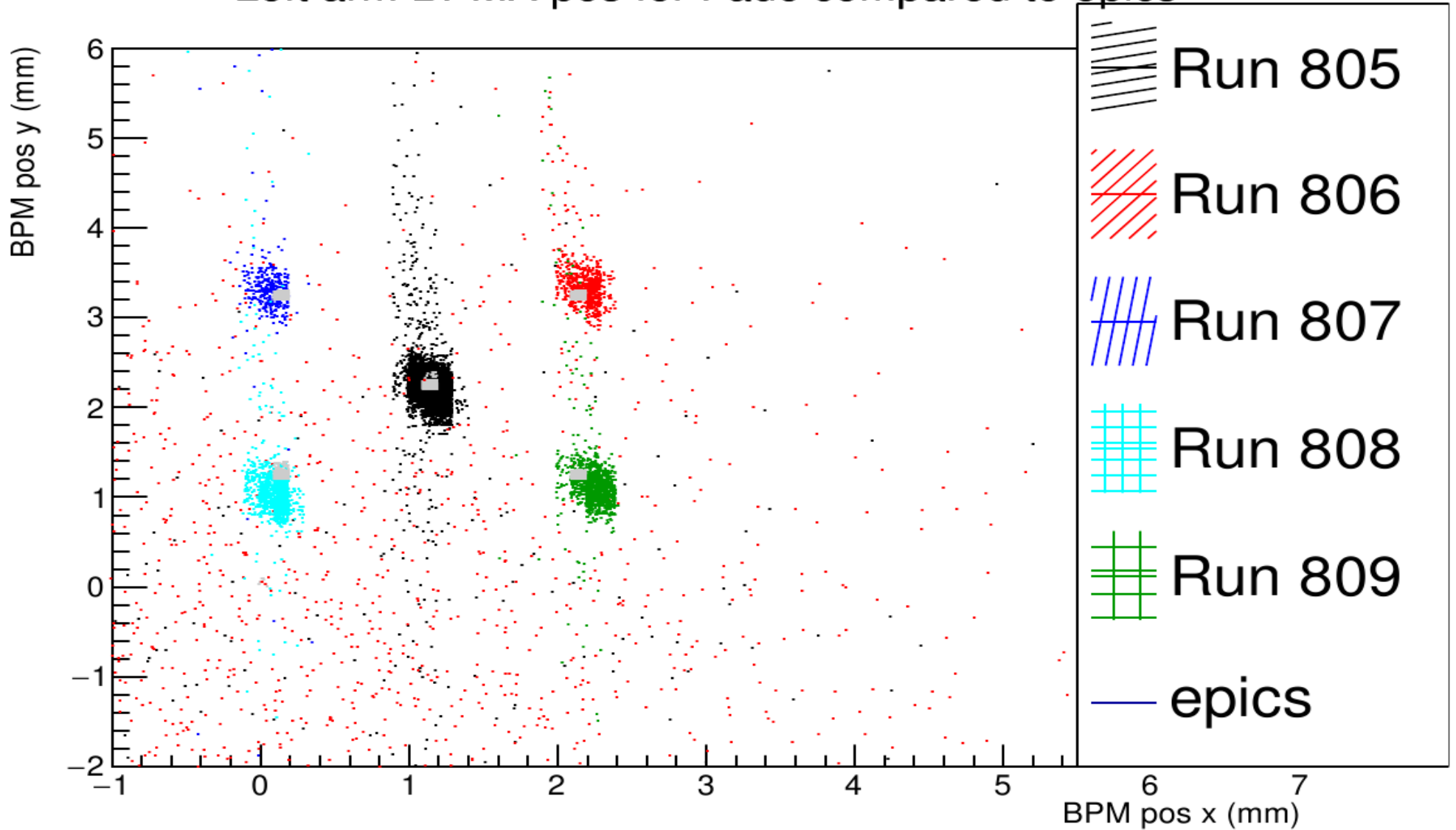


Left arm Fbus BPMB vs epics for y pos



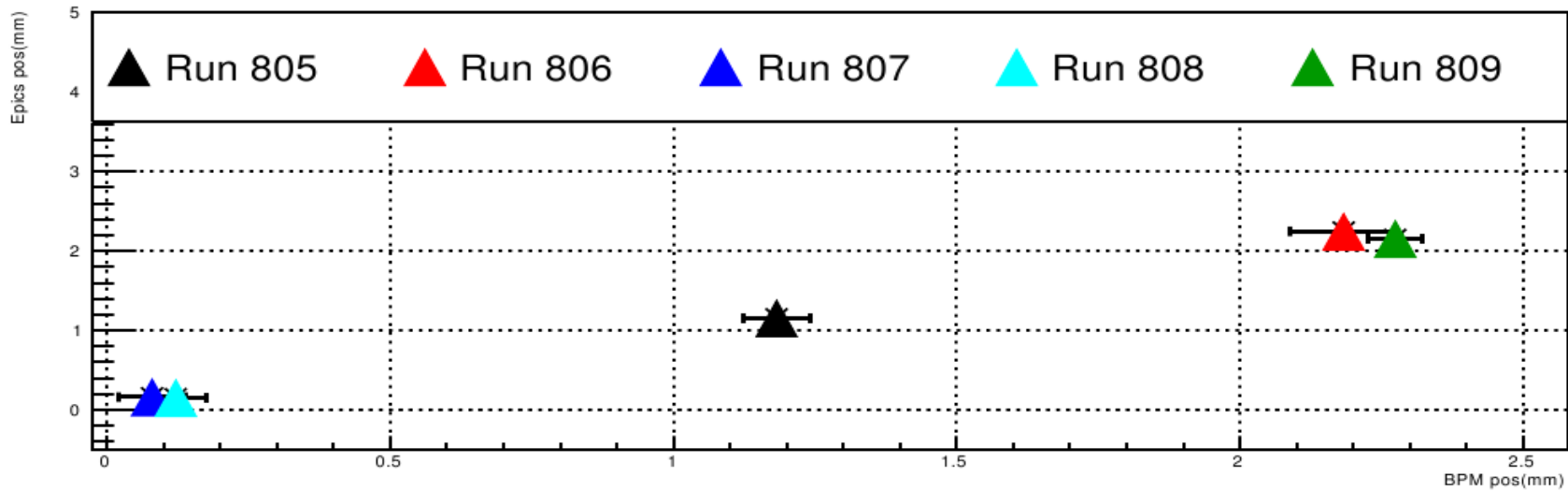
# Calibration for Left Arm

Left arm BPMA pos for Fadc compared to epics

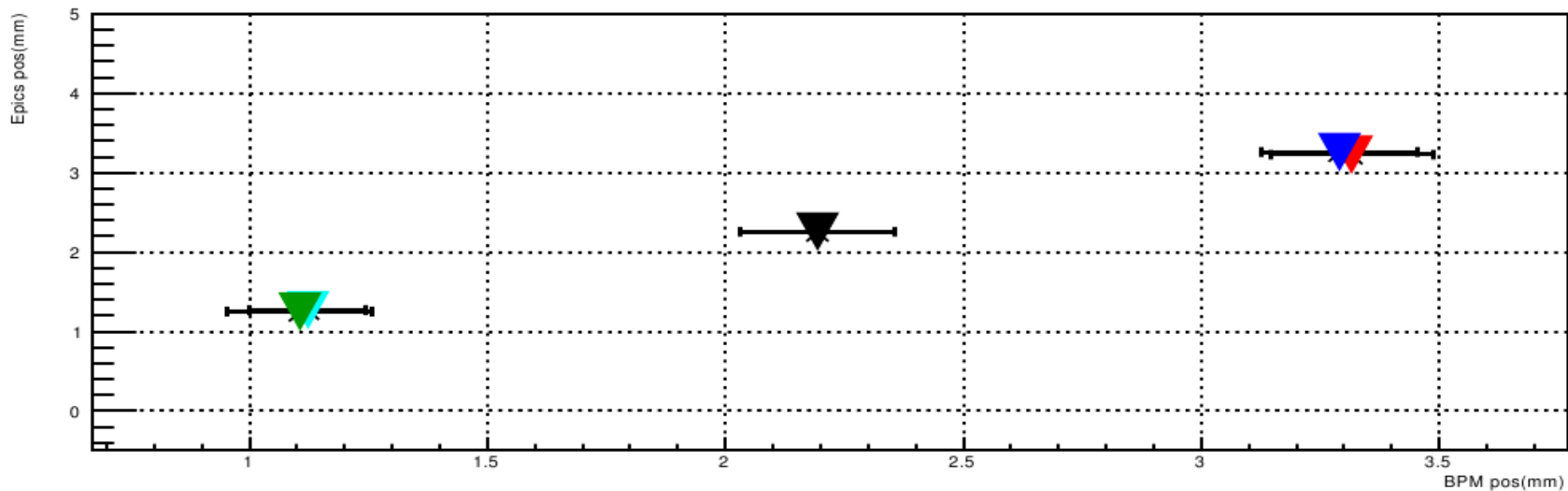


# Calibration for Left Arm

Left arm Fadc BPMA vs epics for x pos

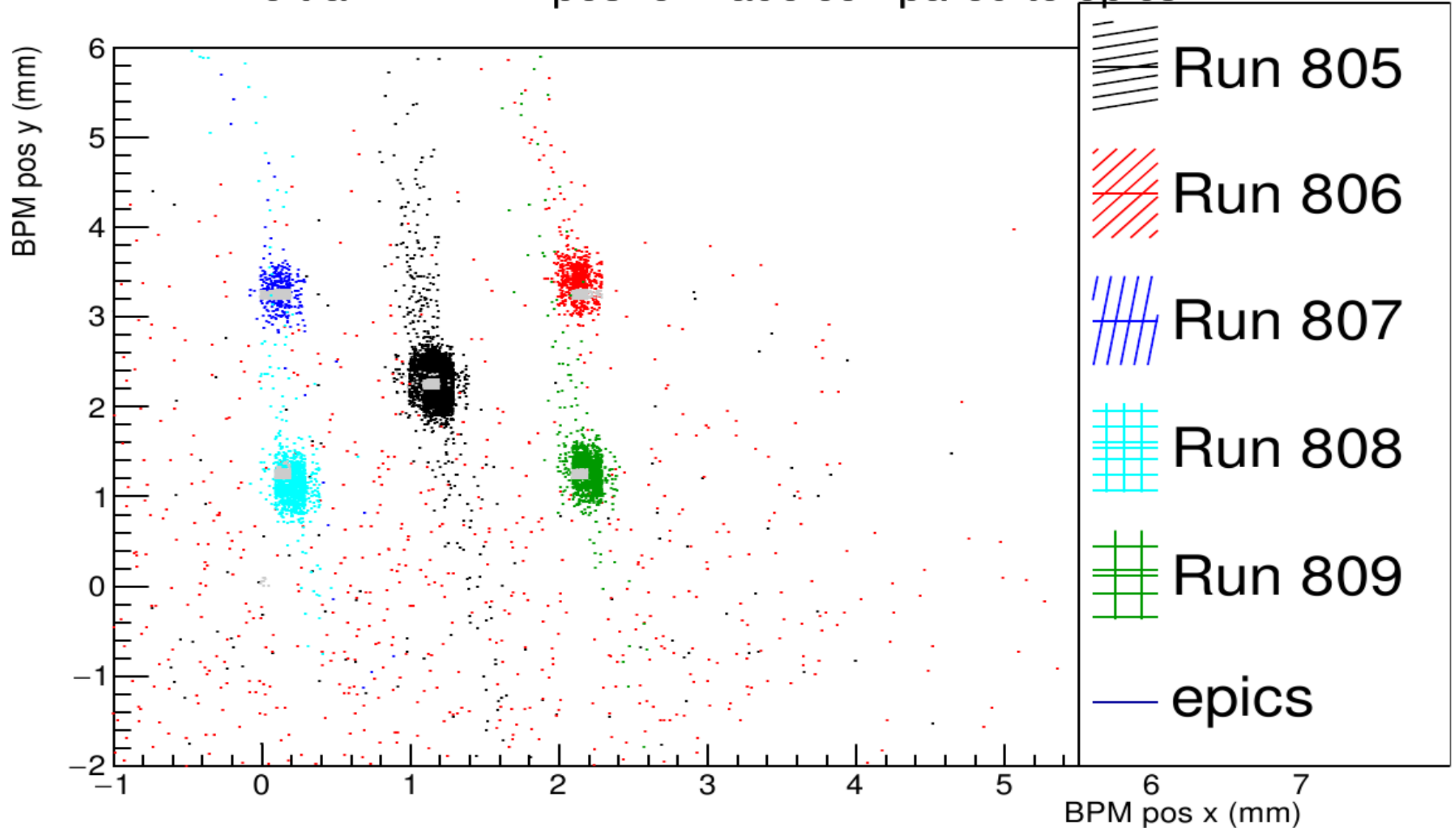


Left arm Fadc BPMA vs epics for y pos



# Calibration for Left Arm

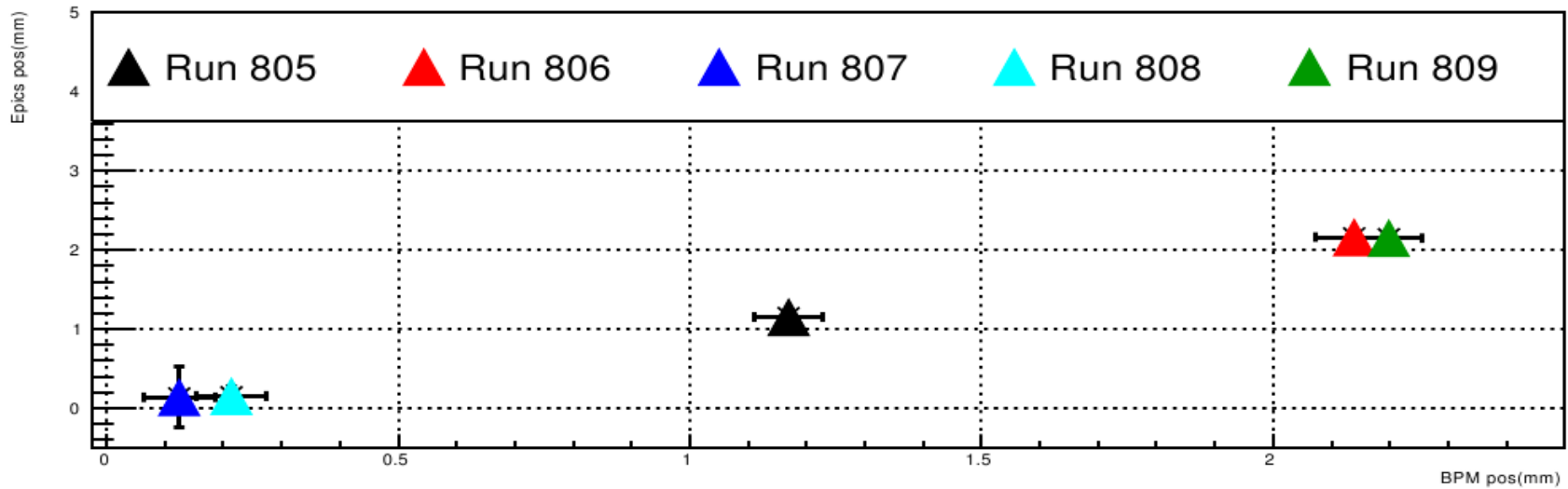
Left arm BPMB pos for Fadc compared to epics



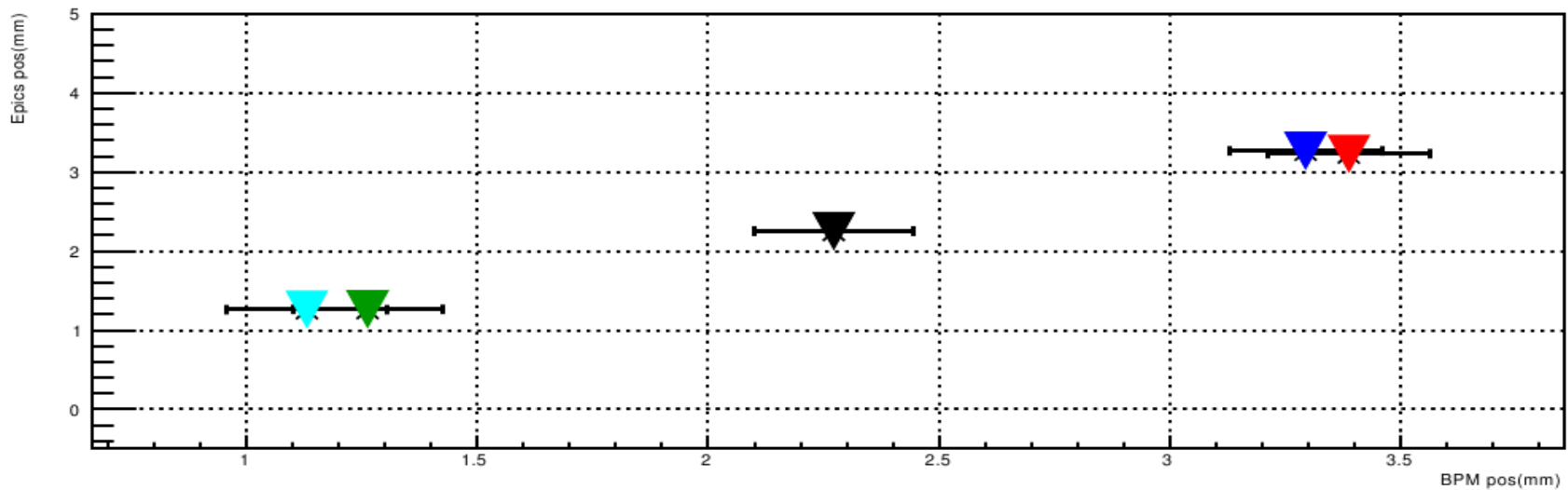


# Calibration for Left Arm

Left arm Fadc BPMB vs epics for x pos

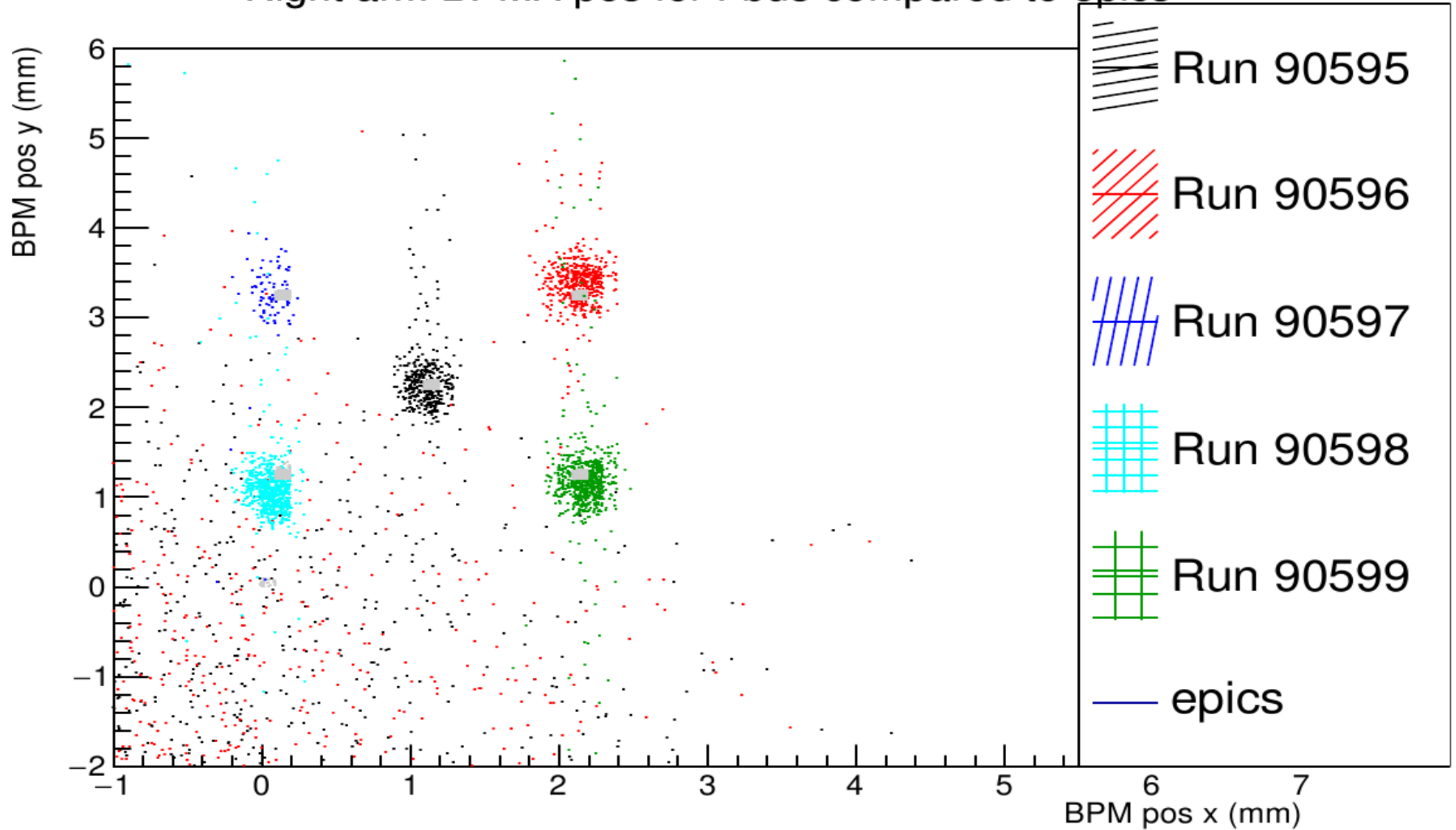


Left arm Fadc BPMB vs epics for y pos



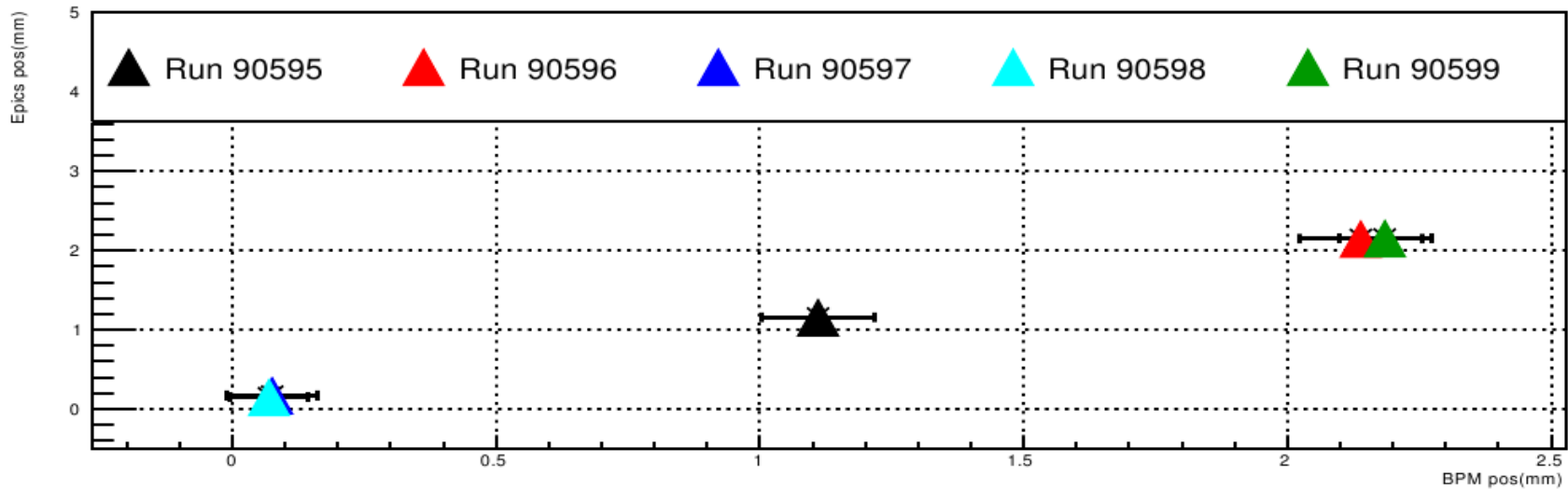
# Calibration for Right Arm

Right arm BPMA pos for Fbus compared to epics

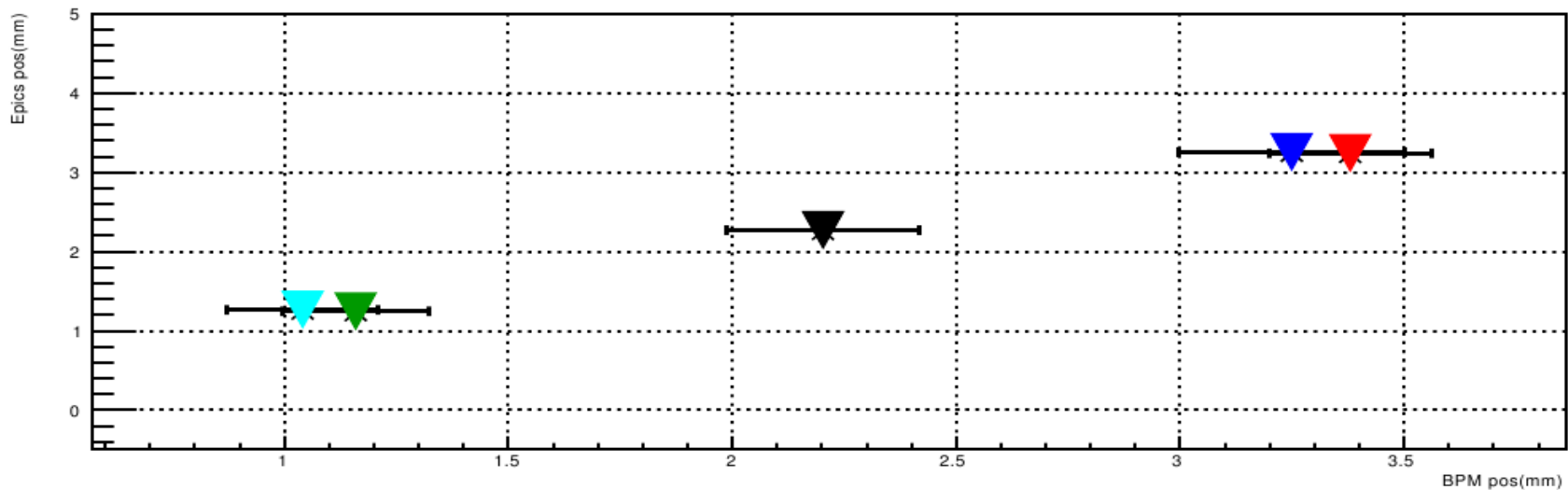


# Calibration for Right Arm

Right arm Fbus BPMA vs epics for x pos

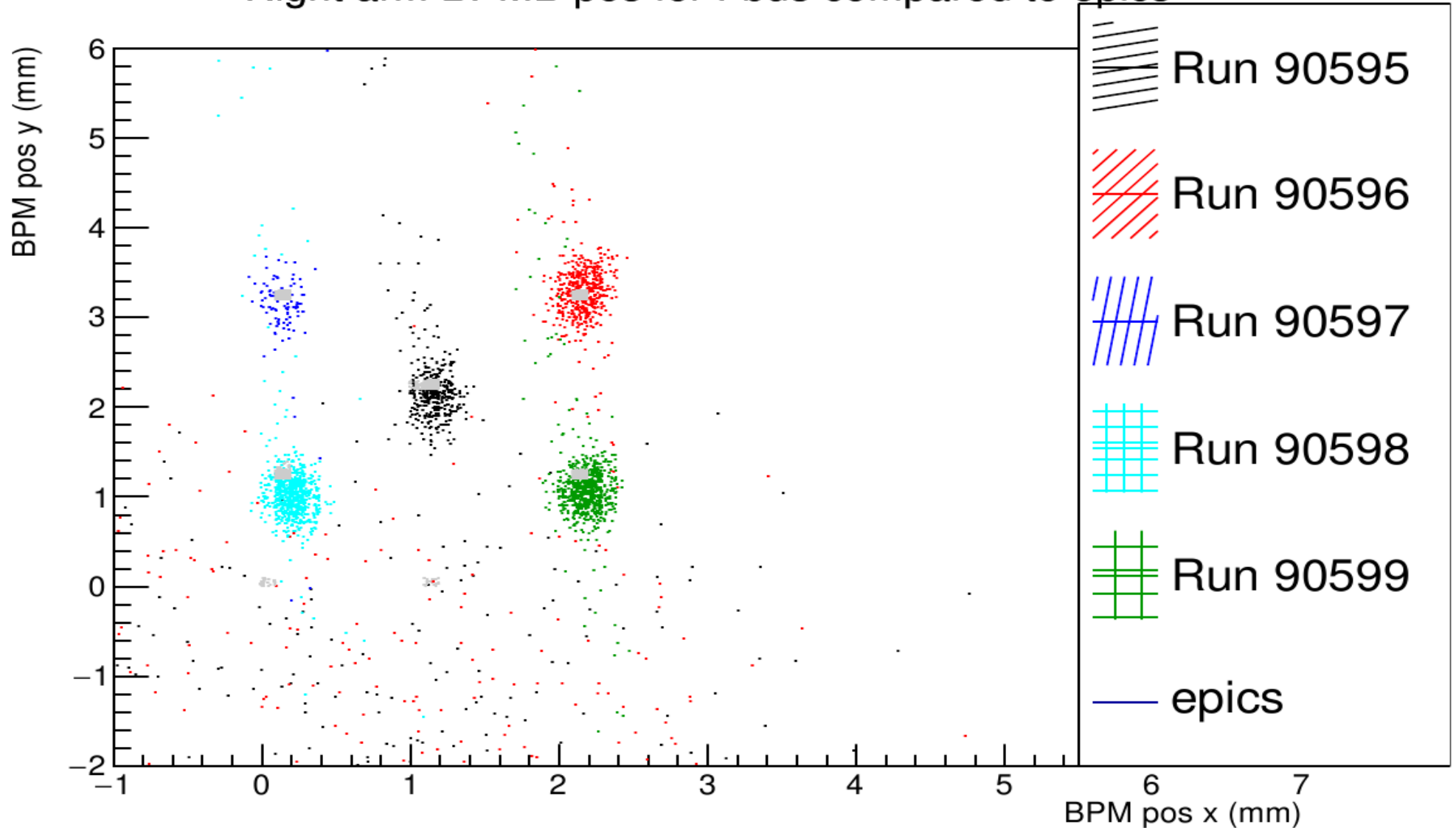


Right arm Fbus BPMA vs epics for y pos



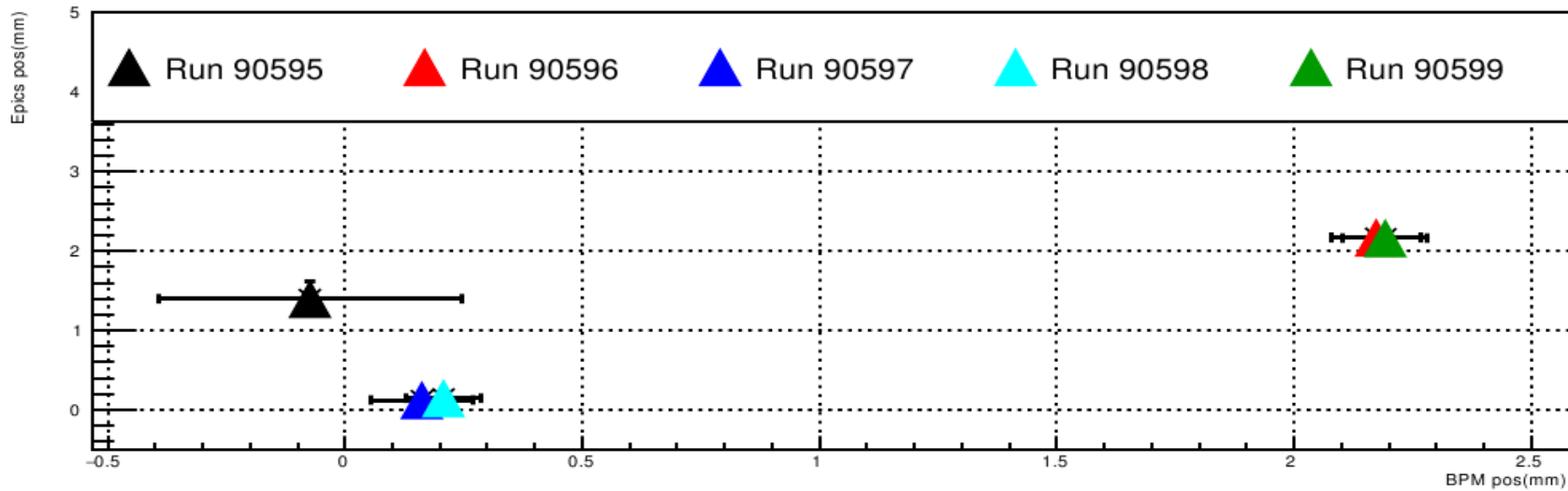
# Calibration for Right Arm

Right arm BPMB pos for Fbus compared to epics

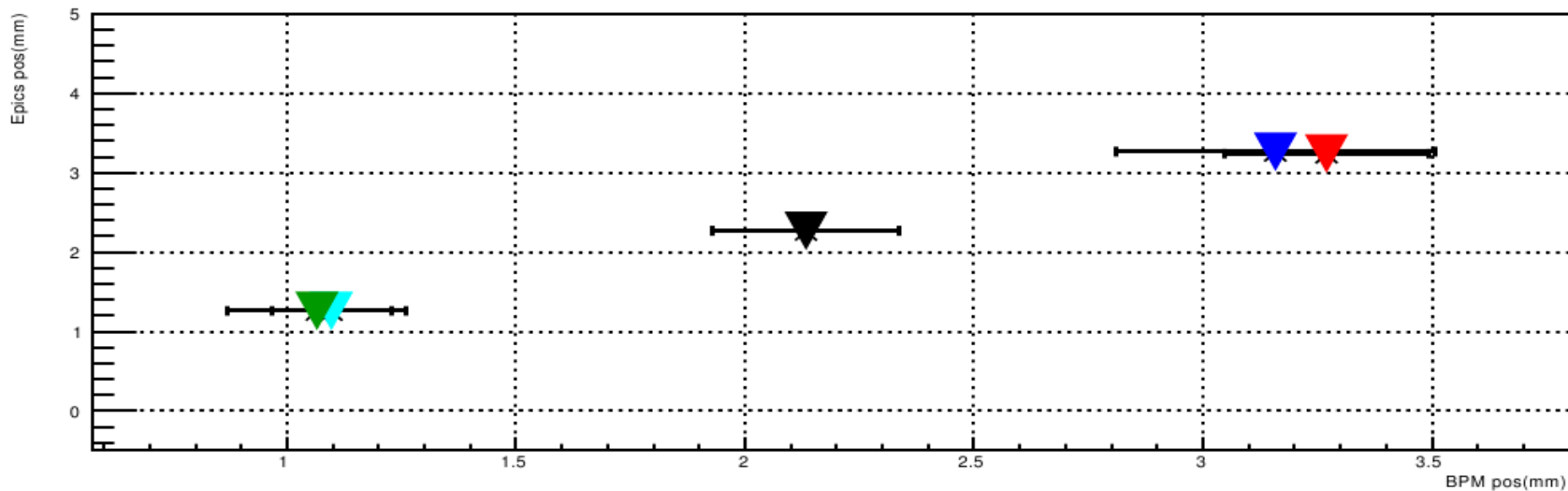


# Calibration for Right Arm

Right arm Fbus BPMB vs epics for x pos

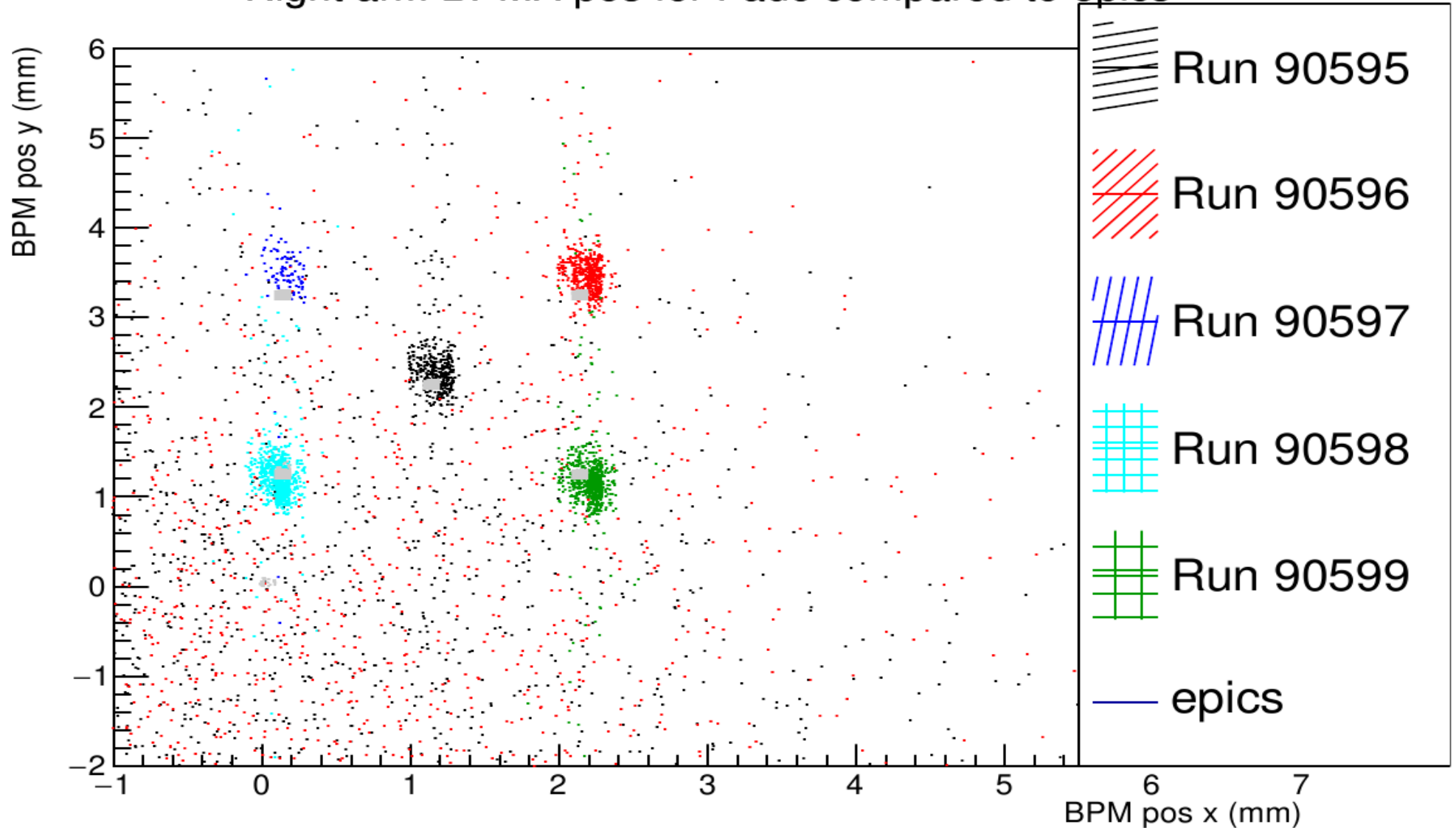


Right arm Fbus BPMB vs epics for y pos



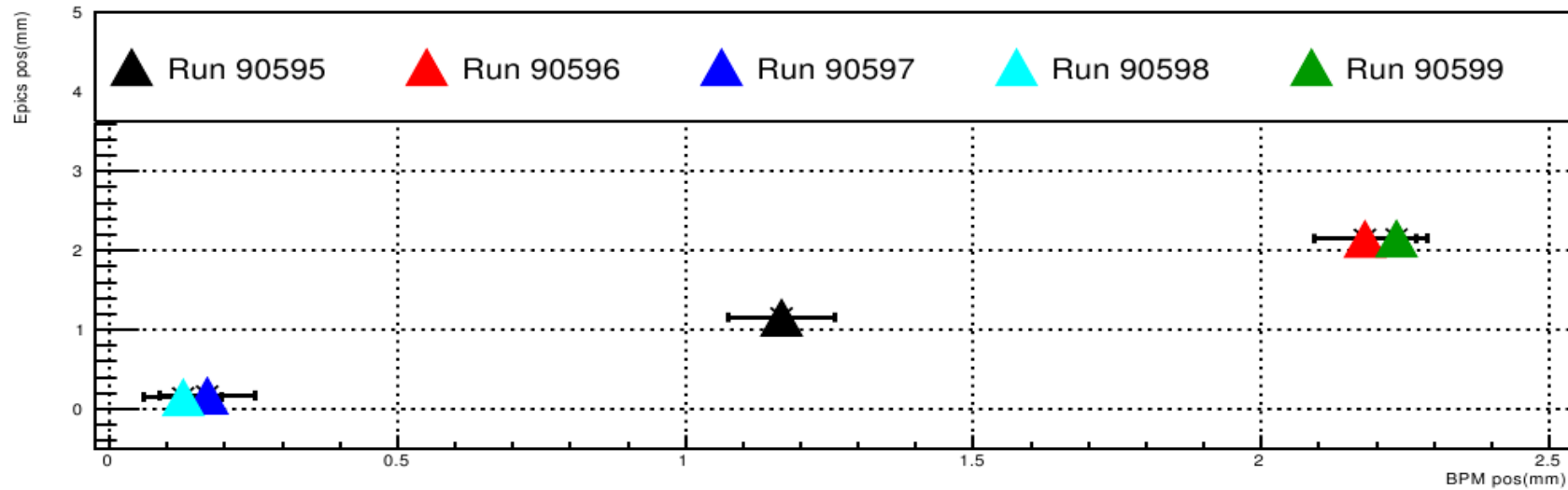
# Calibration for Right Arm

Right arm BPMA pos for Fadc compared to epics

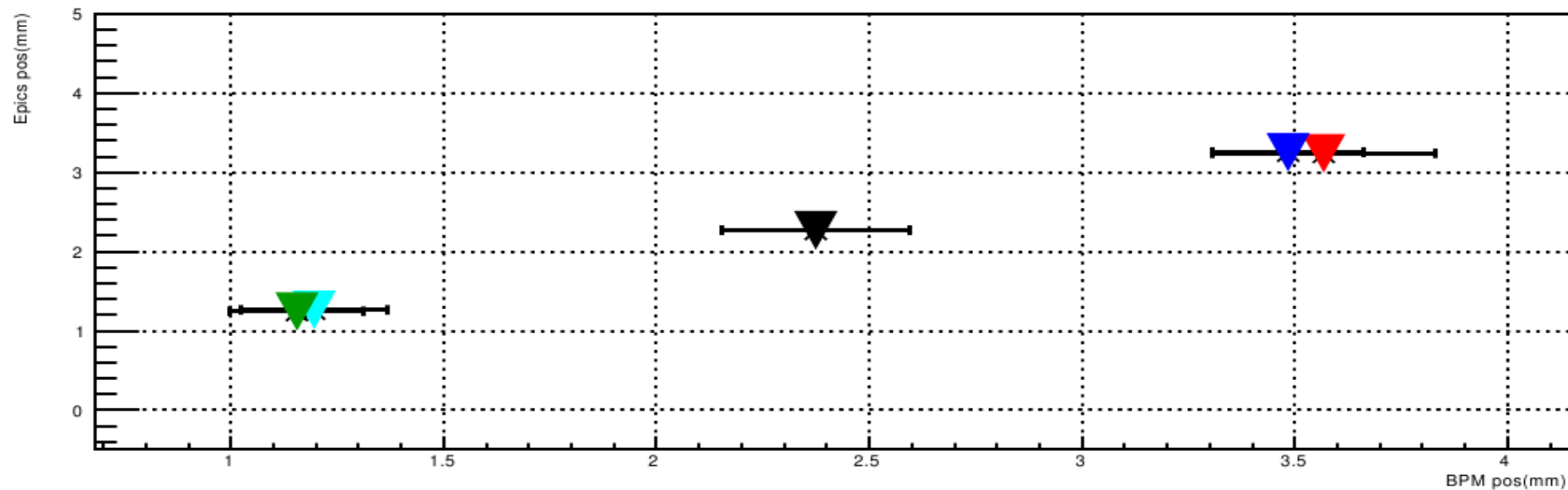


# Calibration for Right Arm

Right arm Fadc BPMA vs epics for x pos

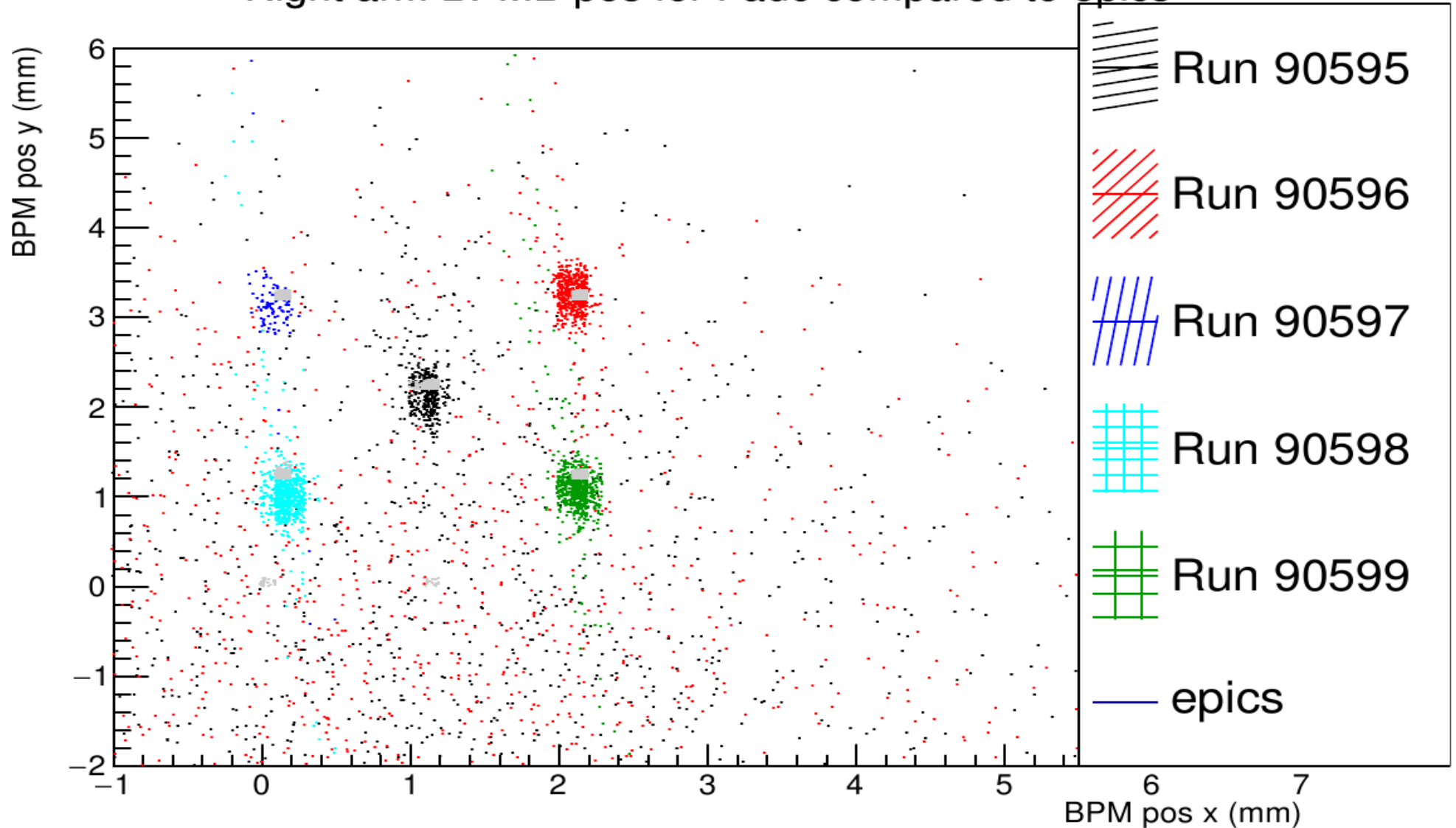


Right arm Fadc BPMA vs epics for y pos



# Calibration for Right Arm

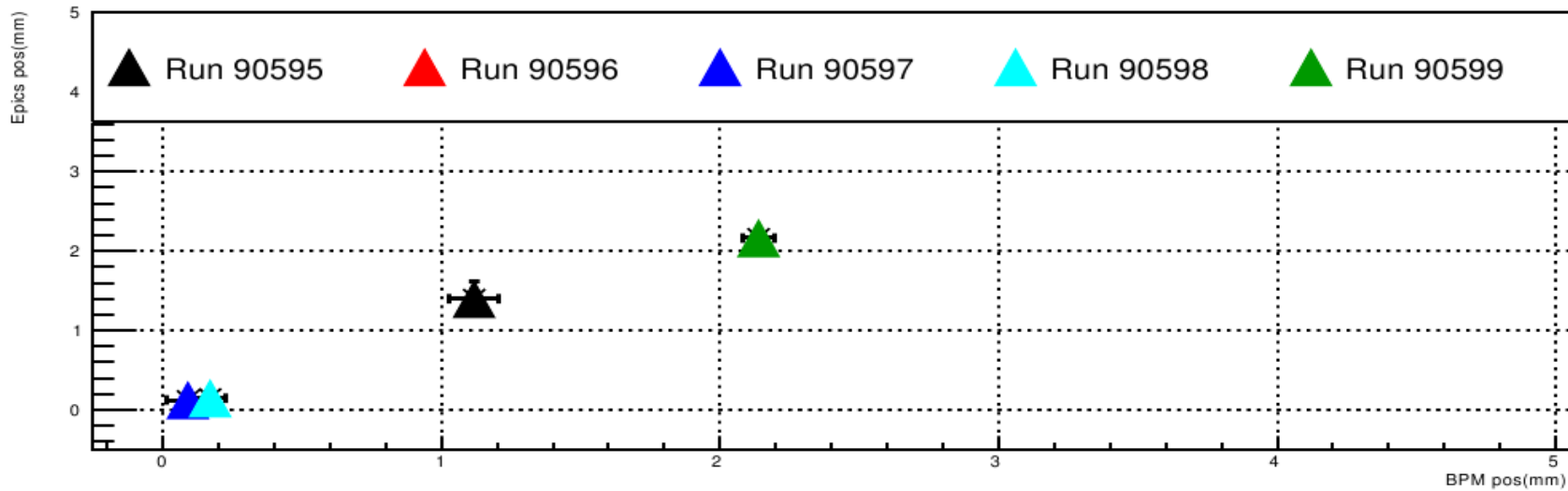
Right arm BPMB pos for Fadc compared to epics





# Calibration for Right Arm

Right arm Fadc BPMB vs epics for x pos



Right arm Fadc BPMB vs epics for y pos

